



Penn
UNIVERSITY *of* PENNSYLVANIA

2016 - 2017

COURSE REGISTER



Office of the University Registrar

Course publications can also be viewed online at <http://www.upenn.edu/registrar>

Abbreviations in Course Publications

THE UNIVERSITY RESERVES THE RIGHT TO WITHDRAW ANY COURSE OR TO CHANGE MEMBERS OF THE FACULTY WHO HAVE BEEN ASSIGNED TO COURSES

ABBREVIATIONS

c.u.	course units	AN	Annenberg School of Communications
h.	hours per week	ED	Graduate School of Education
s.c.	semester credit	FA	School of Design
L	lecture	AS	School of Arts and Sciences
L/R	lecture/recitation (registration in both required)	EG	School of Engineering and Applied Science
L/L	lecture/lab (registration in both required)	LW	School of Law
SM	seminar	MD	School of Medicine
GH	honors sections may be offered	NU	School of Nursing
		SW	School of Social Policy & Practice
		WH	Wharton School of Business & Management

COURSE NUMBER

Unless otherwise stipulated, all courses are 3 hours per week for 1 course unit.

001-399	Undergraduate Courses
400-499	Mixed Courses primarily for undergraduate students
500-599	Mixed Courses primarily for graduate students (Permission of the instructor is normally required by undergraduates in 500-series courses)
600-999	Courses open only to graduate students

COURSE TERM CODE LETTERS

Letters symbolizing the term or terms in which courses are given appear in parentheses on the line with the course number.

(A)	Course offered in fall term only.	(G)	Two terms. Student must enter first term. Credit is given for first term without the second term.
(B)	Course offered in spring term only.	(H)	Course offered fall even-numbered years.
(C)	One-term course offered either term.	(I)	Course offered fall odd-numbered years.
(D)	Two terms. Student may enter either term. Credit is given for either term.	(J)	Course offered spring even-numbered years.
(E)	Two terms. Student must enter first term. Credit is given only on the completion of both terms.	(K)	Course offered spring odd-numbered years.
(F)	Two terms. Student may enter either term. Credit is given only on the completion of both terms.	(L)	Course offered in summer term only.
(G)	Two terms. Student must enter first term. Credit is given for first term without the second term.	(M)	Course not offered every year.

ACCOUNTING (WH) {ACCT}

SM . EMPIR DESIGN IN ACCT RES.

L/R 101. Principles of Accounting I. (C)

This course is an introduction to the basic concepts and standards underlying financial accounting systems. Several important concepts will be studied in detail, including: revenue recognition, inventory, long-lived assets, present value, and long term liabilities. The course emphasizes the construction of the basic financial accounting statements - the income statement, balance sheet, and cash flow statement - as well as their interpretation.

L/R 102. Managerial Accounting. (C)

The first part of the course presents alternative methods of preparing managerial accounting information, and the remainder of the course examines how these methods are used by companies. Managerial accounting is a company's internal language, and is used for decision-making, production management, product design and pricing and for motivating and evaluating employees. Unless you understand managerial accounting, you cannot have a thorough understanding of a company's internal operations. What you learn in this course will help you understand the operations of your future employer (and enable you to be more successful at your job), and help you understand other companies you encounter in your role as competitor, consultant, or investor.

201. Financial Accounting I. (A)

Prerequisite(s): ACCT 101,102.

This course revisits topics covered in Introductory Financial Accounting (Accounting 101), with a focus on the asset side of the balance sheet: Cash, accounts and notes receivable, inventory, marketable securities, equity investments, PPE, and intangibles. The course also covers revenue and expense recognition issues, and generally accepted accounting principles that affect the format and presentation of the financial statements.

202. Financial Accounting II. (B)

Prerequisite(s): ACCT 101,102.

Covers liabilities and equities, especially long-term debt, convertible securities, equity issuance, dividends, share repurchases, employee stock options, pensions, leases, deferred tax, and derivative securities. Related topics covered include computation of diluted

earnings per share, disclosure issues, earnings management, and basic financial statement analysis of cash flows.

203. (ACCT703) Cost Accounting. (B)

Prerequisite(s): ACCT 101,102, STAT 101,102 & ECON 001.

Deals with the application of statistical tools and decision models to accounting data for the purpose of facilitating managerial control.

208. (ACCT718) Auditing. (C)

Prerequisite(s): ACCT 201, 202 or equivalent.

This course includes a consideration of the historical role of the auditor and the changing role in today's environment, the organization of the accounting profession, and the new influences of the Public Company Accounting Oversight Board. It introduces the students to generally accepted auditing standards, professional ethics, and legal liability. A conceptual theory of auditing is discussed and practical examples of auditing techniques and work programs are used to illustrate the application of the theory. The course also covers the auditor's reporting standards and uses case studies and professional journal articles as bases for discussion and analysis.

242. (ACCT742) Financial Statements: Analysis & Reporting Incentives. (C)

Prerequisite(s): ACCT 101.

In the course, students learn how to analyze firms' financial statements and disclosures to determine how a firm's particular accounting choices reflect the underlying economics of the firm. As a result, the course strengthens students' ability to use financial statements as part of an overall assessment of the firm's strategy and valuation. The course is especially useful for anyone interested in working on the buy or sell side.

The course provides both a framework for and the tools necessary to analyze financial statements. At the conceptual level, it emphasizes that preparers and users of financial statements have different objectives and incentives. At the same time, the course is applied and stresses the use of actual financial statements. For example, students learn how to detect when firms are managing earnings and/or balance sheets. It draws heavily on real business problems and uses cases to illustrate the application of the techniques and tools.

243. (ACCT743) Accounting for Mergers, Acquisitions, and Complex Financial Structures. (A)

Prerequisite(s): Prerequisites: ACCT 101, 102, 201, 202.

The objective of this course is to discuss and understand the accounting that underlies merger, acquisition, and investment activities among firms that result in complex financial structures. Key topics include the purchase accounting method for acquisitions, the equity method for investments, the preparation and interpretation of consolidated financial statements, tax implications of mergers and acquisitions, earnings-per-share considerations, the accounting implications of intercompany transactions and non-domestic investments, etc.

297. (ACCT897) Taxes and Business Strategy. (C)

Prerequisite(s): ACCT 101 and FNCE 101.

The objective of this course is to develop a framework for understanding how taxes affect business decisions. The key themes of the framework - all parties, all taxes and all costs - are applied to decision contexts such as investments, compensation, organizational form, and mergers and acquisitions. The ultimate goal is to provide a new approach to thinking about taxes that will be valuable even as laws and governments change.

399. Supervised Study. (C)

Prerequisite(s): Senior standing and 3.4 average in major related subjects.

Intensive reading and study with some research under the direction of a faculty member. Approval from one of the departmental advisers must be obtained before registration.

611. Fundamentals of Financial Accounting. (C)

The objective of this course is to provide an understanding of financial accounting fundamentals for prospective consumers of corporate financial information, such as managers, stockholders, financial analysts, and creditors. The course focuses on understanding how economic events like corporate investments, financing transactions and operating activities are recorded in the three main financial statements (i.e., the income statement, balance sheet, and statement of cash flows). Along the way, students will develop the technical skills needed to analyze corporate financial statements and disclosures for use in financial analysis, and to interpret how accounting standards and managerial incentives affect the financial reporting process. This course is recommended for

students who want a more in-depth overview of the financial accounting required for understanding firm performance and potential future risks through analysis of reported financial information, such as students intending to go into security analysis and investment banking.

612. Accelerated Financial Accounting. (A)

The intended audience for this course is students with prior knowledge of financial accounting who understand: (1) the recording of economic transactions in the accounting records; (2) the basic financial statements that summarize a firm's economic transactions (the balance sheet, the income statement and the statement of cash flows) and (3) the fundamental concepts needed to prepare or understand published financial statements (e.g. use of accrual accounting). Exploiting prior knowledge, the course aims in six weeks to help students become effective users of financial statements.

613. Fundamentals of Financial and Managerial Accounting. (C)

This course provides an introduction to both financial and managerial accounting, and emphasizes the analysis and evaluation of accounting information as part of the managerial processes of planning, decision-making, and control. A large aspect of the course covers the fundamentals of financial accounting. The objective is to provide a basic overview of financial accounting, including basic accounting concepts and principles, as well as the structure of the income statement, balance sheet, and statement of cash flows. The course also introduces elements of managerial accounting and emphasizes the development and use of accounting information for internal decisions. Topics include cost behavior and analysis, product and service costing, and relevant costs for internal decision-making. This course is recommended for students who will be using accounting information for managing manufacturing and service operations, controlling costs, and making strategic decisions, as well as those going into

general consulting or thinking of starting their own businesses.

706. Cost Management. (C)

Prerequisite(s): ACCT 611/612/613 or waiver. Lecture, case studies, class participation, written group cases, and exams.

This course covers managerial accounting and cost management practices that can be strategically applied across the various functions of a business organization to improve organizational performance. The course emphasizes the methods available to measure and evaluate costs for decision-making and performance evaluation purposes. It reviews a number of cost management issues relating to the design and implementation of strategic, marketing, value analysis, and other management models in modern firms; and identifies major contemporary issues in managerial accounting and financial decision-making. A variety of case studies in different industries and decision contexts are used to examine the application of these concepts.

718. (ACCT208) Auditing. (C)

Prerequisite(s): ACCT 611/612/613 or waiver.

This course includes a consideration of the role of the auditor, the organization of the accounting profession, and the current audit environment. It introduces the student to generally accepted auditing standards, professional ethics, and legal liability. A conceptual theory of auditing is discussed and practical examples of auditing techniques and work programs are used to illustrate the application of the theory. The course also covers the auditor's reporting standards and uses case studies and professional journal articles as bases for discussion and analysis.

747. Financial Statement and Disclosure Analysis. (C)

Prerequisite(s): ACCT 611/612/613 completed or waiver.

This course focuses on the analysis of financial communications between corporate managers and outsiders, including the required financial statements, voluntary disclosures, and interactions with

investors, analysts, and the media. The course draws on the findings of recent academic research to discuss a number of techniques that outsiders can use to detect potential bias or aggressiveness in financial reporting. FORMAT: Case discussions and lectures. Comprehensive final exam, group project, case write-ups, and class participation.

SM 910. Accounting Theory Research. (A)

The course includes an introduction to various analytical models and modeling/mathematical techniques that are commonly used in accounting research as well as related empirical applications.

SM 921. Empirical Research in Accounting I. (B)

The course covers empirical research design and provides students with a perspective on historically important accounting research. Topics covered such as research on the time-series and cross-sectional properties of financial accounting measures, capital markets behavior, financial intermediaries, and international accounting research.

SM 922. Empirical Research in Accounting II. (B)

The course covers empirical research design and provides students perspective on historically important accounting research. Topics covered such as research on the time-series and cross-sectional properties of financial accounting measures, capital markets behavior, financial intermediaries, and international accounting research. Topics covered may include corporate governance, executive compensation, debt contracting, accounting regulation, tax, and management accounting.

SM 930. Empirical Design in Accounting Research. Prerequisite(s):

At least one graduate level course in econometrics.

Course on empirical methods and their application to accounting research topics.

AFRICAN STUDIES (AS) {AFST}

Undergraduate Courses

SM 016. (MUSC016) Freshman Seminar. (M) Muller.

050. (AFRC050, ANTH022, FOLK022, MUSC050) World Musics and Cultures. (C) Arts & Letters Sector. All Classes. Muller.

Draws on repertoires of various societies from Asia, Africa, Europe, and the Americas to examine relations between aesthetic productions and social processes. We investigate musical sounds, cultural logics informing those sounds, and social strategies of performance. Topics may include indigenous music theories, music and social organization, symbolic expressions and musical meaning, gender, religion, and social change.

062. (NELC062) Land of the Pharaohs. (M) History & Tradition Sector. All classes. Silverman, Wegner.

This course provides an introduction to the society, culture and history of ancient Egypt. The objective of the course is to provide an understanding of how ancient Egypt emerged as one of the most successful and long-lived civilizations in world history.

071. (AFRC071, ENGL071) Literatures of Africa and the African Diaspora. (M) Staff.

This course will serve as an introduction to a particularly rich arena of literature in English. It will also help students to begin to understand many of the racial subtexts underlying the culture wars in America, where too often in the full glare of cameras, an anguished voice informs the audience that "as an African, I cannot expect justice in this America." One of the things at work here is the assumption of a common Africa diasporic identity -- understood as an excluded, marginalized subtext of identity in the new world. But why is Africa being involved here? What does "Africa" mean in this new world context? What is the larger global context of these assumptions about "Africa" and what is its history? Does the term "Africa" itself have a history? What is "African literature?" This course, therefore, will also help students not only to ask fundamental questions about identity but also to understand identity as a moving and dynamic construct. How, for example, does "Africa" travel to South America, to the Caribbean Archipelago, and to Europe?

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

L/R 075. (AFRC075, HIST075) Africa Before 1800. (B) History & Tradition Sector. All classes. Babou, Cassanelli.

Survey of major themes and issues in African history before 1800. Topics include: early civilizations, African kingdoms and empires, population movements, the spread of Islam, the slave trade era. Also, emphasis on how historians use archaeology, linguistics, and oral traditions to reconstruct Africa's early history.

L/R 076. (AFRC076, HIST076) Africa Since 1800. (A) History & Tradition Sector. All classes. Cassanelli.

Survey of major themes, events, and personalities in African history from the early nineteenth century through the 1960s. Topics include abolition of the slave trade, European imperialism, impact of colonial rule, African resistance, religious and cultural movements, rise of naturalism and pan-Africanism, issues of ethnicity and "tribalism" in modern Africa.

102. (CIMS112, COML245, ENGL102) Study of a Theme. (C) Arts & Letters Sector. All Classes.

This is an introduction to literary study through the works of a compelling literary theme. (For offerings in a given semester, please see the online course descriptions on the English Department website). The theme's function within specific historical contexts, within literary history generally, and within contemporary culture, are likely to be emphasized. Some versions of this course will also serve as an introduction to other members of the English faculty, who will visit the class as guest lecturers. This course is designed for the General Requirement, and is ideal for the students wishing to take an English course but not necessarily intending to major.

140. (AFRC140) Elementary Zulu I in Residence. (C) Mbeje. OBJECTIVE: Attainment of Level 1 (ceiling) in speaking, listening, reading, and writing skills on the Interagency Language Roundtable (ILR) scale.

This elementary course is for beginners and it requires no prior knowledge of Zulu. The course will expose students to the Zulu language and culture and will be based in the National Standards for Foreign Language Learning. Students will be engaged in communicative language learning through interpersonal, interpretive and presentational modes of language

learning techniques. They will gain knowledge and understanding of the Zulu culture. They will use their Zulu language and culture learning experience to connect with other disciplines and further their knowledge of these disciplines through perspectives acquired from their Zulu class. They will also develop insight into the nature of language and culture through comparisons of the Zulu language and culture and their own. Through movies, songs, and other cultural activities online students will acquire the natural use of the language which will enable them to acquire linguistic and cultural skill to become life-long learners who can participate in Zulu communities in the U.S. and overseas.

147. (HIST147, NELC187) Holy Wars & Jihads. (C)

169. The Conflicts in Darfur and South Sudan. Dinar.

Sudan is marred by several military conflicts between the state and its citizens not only during colonial times but even after its independence in 1956. The current conflict in Darfu is only one of many wars that ravaged Sudan prior to the ending of Africa's longest civil war (1956-1971, 1983-2005) in the southern part of the country. This course will provide an in-depth analysis of the two main conflicts in the Sudan which ends up with the division of the country into two. (1) The first conflict we will study is the Darfur conflict based upon historical and cultural factors, as well as analyzing the ideology of the successive Sudanese states specifically the current government. The course will explore the role of regional and international politics with interest in the ongoing conflict, the "Genocide" and ICC controversies, as well as the local militia, the politics of aid in war-torn areas, and the role of Sudan's neighbors in the Darfur conflict and how this could be related to other conflicts in Sudan. (2) The second conflict that we'll cover is the conflict in southern Sudan, which ends up by its secession as an independent country in 2011. This course aims towards the study of the reasons behind these military conflicts and ethnic conflicts that characterize the modern history of Sudan.

190. (AFRC190, ANTH190, HIST190) Introduction to Africa. (A) Society Sector. All classes. Hasty.

This course provides an introduction to the study of Africa in all its diversity and complexity. Our focus is cultural, geographical, and historical: we will seek to understand Africa's current place in the world political and economic order and

learn about the various social and physical factors that have influenced the historical trajectory of the continent. We study the cultural formations and empires that emerged in Africa before European colonial invasion and then how colonialism reshaped those sociocultural forms. We'll learn about the unique kinds of kinship and religion in precolonial Africa and the changes brought about by the spread of Islam and Christianity. Finally, we'll take a close look at contemporary issues such as ethnic violence, migration, popular culture and poverty, and we'll debate the various approaches to understanding those issues.

210. (AFRC210, HIST250, RELS210) African Religions. (M) Ofosu-Donkoh.

Religion permeates all aspects of African life and thought. There is no dichotomy between religion and society in Africa. In this course, we will survey some of the indigenous religions of Africa and examine their nature and their philosophical foundations. We will examine African systems of beliefs, myths, symbols, and rituals, as developed by African societies to express their distinctive worldviews. We will also raise some questions about the interrelationship of religion and culture as well as religion and social change in Africa, and the challenges of modern technologies to African beliefs. We will examine the future of African religions and analyze the extent to which African peoples can hold on to their beliefs in this age of rapid technological and scientific development. Emphasis will be on themes rather than on individual national or tribal religions. Case studies, however, will be limited to West Africa among the Akan of Ghana, the Yoruba of Nigeria, and the Mende of Sierra Leone. Questions are provided (a) to guide and direct reading (b) to form the basis for discussions (c) as exercises and (d) for examinations.

221. (AFRC222, GSWS222) African Women's Lives: Past and Present. (M) Blakely.

Restoring women to African history is a worthy goal, but easier said than done. The course examines scholarship over the past forty years that brings to light previously overlooked contributions African women have made to political struggle, religious change, culture preservation, and economic development from pre-colonial times to present. The course addresses basic questions about changing women's roles and human rights controversies associated with African women within the wider cultural and historical contexts in which their lives are lived. It also raises fundamental questions about sources,

methodology, and representation, including the value of African women's oral and written narrative and cinema production as avenues to insider perspectives on African women's lives.

225. (AFRC225) African Languages and Culture. (C) Mbeje.

The aim of the course is to provide a general perspective on African languages and African linguistics. No background in linguistics is necessary. Students will be introduced to theoretical linguistics—its concepts, theories, ways of argumentation, data collection, data analysis, and data interpretation. The focus will be on the languages and linguistics of Africa to provide you with the knowledge and skills required to handle the language and language-related issues typical of African conditions. We will cover topics related to formal linguistics (phonology/phonetics, morphology, syntax, and semantics), aspects of pragmatics as well as the general socio-linguistic character of African countries. We will also cover language in context, language and culture, borrowing, multilingualism, and cross-cultural communication in Africa.

SM 227. (AFST503, ANTH227, ANTH504) Media in Africa. (B)

This course examines the recent explosion of media culture in Africa, including radio, TV, film, internet, newspapers, and magazines. We look at the media forms themselves, studying the elements of African culture that shape the language, themes, and imagery of African media. We also study the producers of the media: the African journalists, film directors, disc jockeys, actors, and entertainers who construct the African public sphere through talent and ingenuity, drawing on cultural knowledge and social relationships. Finally, we'll turn to African audiences, learning how Africans actively engage with media forms, using media to participate in national conversations on such topics as gender, environmentalism, corruption, and development. Throughout the course, we study how African media give expression to ethnic, political, and religious identities, playing a crucial role in the construction and interaction of communities within the larger context of nation-states.

228. (COML224) African Epic: Performance & Power. Blakely.

Homer's Iliad and Odyssey from ancient Greece and Song of Roland from medieval France are familiar landmarks in world literature. In contrast, Sunjata Epic of Mali, Mwindo Epic of Congo and more

than twenty-five other heroic narrative poems throughout Africa are less known but equally valuable for accessing ancient wisdom, exploits of heroes and heroines, cultural values, knowledge systems, and supernatural realms. An additional benefit of studying African epic is that they are performed today or in living memory, so the cultural, performative, and social contexts are not obscured by centuries. These living traditions give us opportunities to more fully understand bards' roles, interaction of bard and audience, transformation from oral to written representation, and the extension of epic themes into other aspects of social life.

SM 231. (AFRC231, CIMS210, FREN231) Francophone African Cinema. (M) Moudileno.

This course will introduce students to recent films by major directors from Francophone Africa. While attention will be given to aesthetic aspects and individual creativity, the viewing and discussions will be mostly organized around a variety of (overlapping) themes: History; Tradition/modernity; Urban Life; Gender and sexuality; Politics. Class conducted in French.

SM 232. (CIMS233, HIST232) Topics in World History. (C) Staff.

SM 233. (FOLK233) African Folklore, Popular Culture, and the Diaspora. (M) Blakely.

This course explores African expressive culture in both West and Central Africa and the Americas, considering continuities in visual and verbal art, religion, and ritual, and material culture from Africa to the New World. The topic is interdisciplinary, drawing on research by folklorists, cultural anthropologists, archaeologists, and art historians. This study informs our understanding of both particular historical connections related to specific peoples and genres and fundamental aesthetic values that have shaped and continue to influence the entire Afro-Atlantic region.

235. Africans Abroad: Emigrants, Refugees, and Citizens in the New African Diaspora. (M) Cassanelli.

This seminar will examine the experiences of recent emigrants and refugees from Africa, including many now living in the city of Philadelphia and the surrounding region. In addition to reading some of the historical and comparative literature on migration, ethnic diasporas, and transnationalism, students will have the opportunity to conduct research on specific African communities in Philadelphia or

elsewhere in North America, Europe, or the Middle East. African emigres' relations with both their home and host societies will be explored and compared with the experience of other immigrant groups over the past century. Topics include reasons for leaving Africa, patterns of economic and educational adaptation abroad, changes in gender and generational roles, issues of cultural and political identity, and the impact of national immigration policies.

253. (AFRC253, ANTH263, FOLK253, GSW253, MUSC256) Music and Performance of Africa. (M) Muller.
Prerequisite(s): Completion of MUSC 050 is recommended.

This class provides an overview of the most popular musical styles and discussion of the cultural and political contexts in which they emerged in contemporary Africa. Learning to perform a limited range of African music/dance will be part of this course. No prior performance experience required. (Formerly Music 253).

257. (AFRC257, PSCI210) Contemporary African Politics. (C) Staff.

A survey of politics in Africa focusing on the complex relationships between state, society, the economy, and external actors. It will cover colonial rule, the independence struggle, authoritarian and democratic statecraft, international debt, economic development, military rule, ethnicity, and class.

268. (AFRC268, SOCI268) CONTEMPORARY ISSUES IN AFRICAN SOCIETY. Imoagene.

This course will deal with law and society in Africa. After surveying the various legal systems in Africa, the focus will be on how and to what extent the countries of Africa "re-Africanized" their legal systems by reconciling their indigenous law with western law and other legal traditions to create unified legal systems that are used as instruments of social change and development. Toward this end, the experiences of various African countries covering the various legal traditions will be included. Specific focus will be on laws covering both economic and social relations. This emphasis includes laws of contracts and civil wrongs, land law, law of succession, marriage and divorce and Africa's laws of International Relations, among other laws. Throughout this course a comparative analysis with non-African countries will be stressed.

SM 272. (AFRC276, COML273, ENGL271) Topics: Africa and African Diaspora. (M) Jaji.

This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year.

SM 390. (AFRC391, FREN390) Survey Francophone Lit. (M) Moudileno.

This class will explore the African city as a site of colonial and postcolonial exchanges by way of twentieth-century European and African representations. We will examine, on the one hand, the status of the urban located in Africa in European works from the colonial period (fiction and non-fiction including Gide, Leiris, Londres). On the other hand, we will study Africans, focusing on the dreams and transformations involved in the passage from the village to the city to the metropole. Essays from history, sociology, urban studies and postcolonial theory will supplement the study of the primary texts. All readings, class discussions and written assignments in French.

467. (NELC467) Introduction to Egyptian Culture and Archaeology. (B) Wegner.

Covers principal aspects of ancient Egyptian culture (environment, urbanism, religion, technology, etc.) with special focus on archaeological data; includes study of University Museum artifacts. Follows AMES 266/466 - History of Egypt taught in the Fall semester.

Graduate Courses

SM 515. (PSCI516) African Political Economy. (M) Staff.

SM 560. (AFRC591, COML590, FREN590) Introduction to Francophone Studies. (M) Moudileno.

An introduction to major literary movements and authors from five areas of Francophonie: the Maghreb, West Africa, Central Africa, the Caribbean and Quebec.

SPRING 2016: This seminar will introduce key authors and issues in Francophone studies through texts that specifically focus on various experiences of war in colonial and postcolonial contexts. Significantly, the first piece of fiction by an African author may well be Bakary Diallo's *Force Bonte*, (1926), the autobiographical story of a WWI Senegalese Tirailleur, physically deformed by his war experience and trying to through his writing. While *Force Bont* is unique as an early piece, similar narratives have not ceased to proliferate in French and Francophone fiction. Indeed,

writers from all over the former French Empire have repeatedly offered fictional accounts of colonial subjects' involvement in European wars, and especially WWII, with various degrees of ambivalence. As conflicts and genocides continue, the experience of war fukes a new wave of Francophone accounts at the turn of the twenty-first century. We will use an extensive diachronically and synchronically developed reading (and viewing) list of texts and films from Senegal, Congo, Rwanda, Guinea, Algeria, Martinique, Mauritius, and (Metropolitan) France from the 1920s to 2014.

Using this material as the basis for our exploration we will address several questions: What are some of the important tropes deployed in these narratives and how do they relate to broader issues concerning colonial and postcolonial violence? How do the wars of others (e.g. WWI and WWII) complicate the experience of war and questions of engagement and solidarity? How do such experiences lay the groundwork for other wars, of liberation, for example? Finally how does war impact the articulation of memory, survival and writing in colonial contexts, in the postcolony, and in the European Metropole? Primary texts in French. Class discussion in French or English.

SM 593. (ENGL595) Studies-Francophone Literature. (M) Moudileno.

Topics will vary. Seminar will focus on one area, author, or "problematique" in Francophone studies. Examples of area-focused seminar: The African Contemporary novel or Francophone Caribbean writers. Example of single-author seminar: "The Poetry and Drama of Aime Cesaire. Examples of thematic approach: writing and national identity; postcolonial conditions, autobiography.

SM 628. (HIST628) Africa in the Wider World: Connections, Contexts, Comparisons. (A) Cassanelli.

This seminar is aimed at students of history, culture, literature, and the arts in the Americas, Europe, or Asia, who need to know something about African history and culture for their own research or studies. It is intended to help students identify, analyze, and incorporate selected scholarship on Africa into their particular area or disciplinary specializations. Topics covered include slavery and slave societies; diasporas and migrations, linguistic, religious and cultural transfers and survivals; and issues of identity, assimilation, nationalism, and pan-Africanism. we want to ask: how much

African history, culture, language, and social structure do Americanists or other non-specialists need to know to do sound scholarship? What comparative questions should we be asking about Africa, and how can we find and utilize data that is reliable and relevant to our own work.

SM 630. (HIST630, HSSC630) African History: Core Issues of Social Process. (C) Feierman.

This graduate seminar explores the literature of African history while trying to find ways to understand history which happens on unfamiliar social and cultural terrain. The terrain is unfamiliar because the words professional historians use, and the underlying assumptions about social process, show the marks of many generations of writing about Europe. The standard histories, then, are torn between describing events in terms of European social process, in which case they do violence to the history, or finding a historical language which is closer to being locally grounded but unfamiliar to a western audience. In this course we study a number of core issues of social process. Each one is meant to direct attention to a complex of local social forms, and each is at the heart of a major body of writings of African history. A tentative list of topics includes the following: Oral tradition; knowledge and identity; ecology and ethnicity; forms of local authority and state power; ritual, conquest, and the transformation of political authority; political economy; gender and personal dependency; the ecological history of disease; popular associations and the state; the local bases of nationalism.

SM 650. (AFRC650, HIST650) Topics in African History. (C) Staff.

Reading and discussion course on selected topics in African history

SM 693. (FREN693) Africa Looks to Europe. (M) Moudileno.

Topics will vary. Seminar will focus on one area, author, or "problematique" in Francophone studies. Examples of area-focused seminar: The African contemporary novel or Francophone Caribbean writers. Example of single-author seminar: The Poetry and Drama of Aime Cesaire. Examples of thematic approach: writing and national identity; postcolonial conditions; autobiography.

SM 696. (COML696, FREN696) POSTCO THEORY FRANCOPHON.

SM 701. (AFRC701, ANTH701, ENVS701, HIST701) Graduate Seminar in African Studies. (B) Staff.

Topics vary. Please consult The African Studies Center for details.

SM 705. (AFRC705, ANTH705, FOLK715, GSW5705, MUSC705) Seminar in Ethnomusicology. (A)

Muller.

Topics in Ethnomusicology. Spring 2010: Imagining Africa Musically: This seminar considers ways in which scholars write about and imagine the African continent through the lens of musical performance. We will consider a range of writings about Africa as a continent, regionally, and nationally, including north Africa and the Maghreb through series of themes including: diaspora, cosmopolitanism, gender, spirituality, and as world music. This is a reading and listening intensive seminar.

SM 740. (HIST740) Research Seminar in Middle Eastern History. (C) Staff.

Research seminar on selected topics in Middle Eastern history.

SM 775. (ENGL775) South African Literature. (M) Barnard.

An advanced seminar in anglophone African literature, possibly including a few works in translation.

African Language Courses

170. (AFRC170, AFST517) Elementary Yoruba I. (A) Awoyale. Offered through Penn Language Center.

The Elementary Yoruba I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Nigeria and the diaspora/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Yoruba. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content.

Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high novice level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Yoruba II course materials.

171. (AFRC171, AFRC517, AFST518) Elementary Yoruba II. (B) Awoyale.

Prerequisite(s): Completion of Elementary Yoruba I, or permission of instructor. Offered through Penn Language Center.

The main objective of this course is to further sharpen the Yoruba linguistic knowledge that the student acquired in level I. By the end of the course, the student should be able to (1) read, write, and understand simple to moderately complex sentences in Yoruba; and, (2) advance in the knowledge of the Yoruba culture.

180. (AFRC180, AFST580) Elementary Swahili I. (A) Mshomba. Offered through Penn Language Center.

The Elementary Swahili I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on East Africa/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Swahili. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content.

Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Swahili II course materials.

181. (AFRC181, AFST581) Elementary Swahili II. (B) Mshomba. Prerequisite(s): Completion of Elementary Swahili I, or permission of instructor. Offered through Penn Language Center.

This course continues to introduce basic grammar, vocabulary, and the reading and writing of Swahili to new speakers. During this term, folktales, other texts, and film selections are used to help introduce important aspects of Swahili culture and the use of the language in wide areas of Africa.

240. (AFRC240, AFRC540, AFST540, NELC481) Elementary Amharic I. (A) STAFF. Offered through Penn Language Center.

The Elementary Amharic I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Ethiopia/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Amharic. The

content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content.

Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high novice level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Amharic II course materials.

241. (AFRC241, AFRC541, AFST541, NELC482) Elementary Amharic II. (B) Hailu. Prerequisite(s): Completion of Elementary Amharic I, or permission of the instructor. Offered through Penn Language Center.

Continuation of Elementary Amharic I.

242. (AFRC242, AFRC543, AFST543, NELC483) Intermediate Amharic I. (A) Hailu. Offered through Penn Language Center.

243. (AFRC243, AFRC544, AFST544, NELC484) Intermediate Amharic II. (B) Hailu. Offered through Penn Language Center.

247. (AFRC247, AFRC548, AFST547, NELC583) Advanced Amharic. (C) Zemichael. Offered through Penn Language Center.

An advanced Amharic course that will further sharpen the students' knowledge of the Amharic language and the culture of the Amharas. The learners communicative skills will be further developed through listening, speaking, reading and writing. There will also be discussions on cultural and political issues.

249. Amharic Language & Culture. (C) Hailu. Prerequisite(s): Completion of Advanced Amharic I & II.

270. (AFRC270, AFST529) Intermediate Yoruba I. (A) Awoyale. Offered through Penn Language Center.

271. (AFRC271, AFRC534, AFST532) Intermediate Yoruba II. (B) Awoyale. Offered through Penn Language Center.

280. (AFRC280, AFST582) Intermediate Swahili I. (A) Mshomba. Offered through Penn Language Center.

281. (AFRC282, AFST583) Intermediate Swahili II. (B) Mshomba. Prerequisite(s): Intermediate Swahili I, or permission of instructor. Offered through the Penn Language Center.

284. (AFRC284, AFST584) Advanced Swahili I. (A) Mshomba. Prerequisite(s): AFST 280, LING 280, AFRC 280 or permission of instructor. Offered through Penn Language Center.

This is an advanced Kiswahili course which will engage learners in extended spoken and written discourse. Advanced learners of Kiswahili will listen to, read about, write and speak on authentic video materials, contemporary novels, and newspapers. They will also participate in various discussions on cultural and political issues.

285. (AFRC285, AFST586) Advanced Swahili II. (B) Mshomba. Offered through Penn Language Center.

370. (AFST587) Advanced Yoruba I. (A) Awoyale. Offered through Penn Language Center.

371. (AFST588) Advanced Yoruba II. (B) Awoyale. Offered through Penn Language Center.

399. Independent Study: Language. (C) Staff. Offered through Penn Language Center.

460. (ANEL460) Middle Egyptian. (E) Silverman.

Introduction to the grammar of Middle Egyptian.

470. TWI LANGUAGE & CULTURE I.

471. TWI LANG & CULTURE II.

484. (AFST590) Swahili Lang/Culture I. (M) Mshomba. Prerequisite(s): Completion of Advanced Swahili I & II.

This course taught in Swahili will focus on reading/writing skills and speaking/listening skills as well as structural and cultural information. The course will be structured around three thematic units: History, Politics, and Education. The course will provide background on the Swahili-speaking world: Who were the first Swahili speakers and what varieties of the language did they speak? How did Swahili spread from the coast to other Swahili-speaking areas as far inland as Uganda, Rwanda, and Congo? Swahili is a lingua franca and has importance in the spread of religion and trade movements. Influences of other languages on Swahili and influences of Swahili on local languages will be

discussed. Political and educational systems will be discussed as well.

486. Yoruba Language & Culture I. (M) Awoyale. Prerequisite(s): Completion of Advanced Yoruba I & II. Offered through Penn Language Center.

487. Yoruba Language & Culture II. (C) Awoyale. Prerequisite(s): Completion of Advanced Yoruba I & II.

490. (AFST594) African Language Tutorial - Elementary I. (C) Staff. Prerequisite(s): Permission of Penn Language Center. Offered through Penn Language Center.

The main objective of this course is to allow students to study an African language of their choice, depending on the availability of the instructor. The course will provide students with linguistics tools which will facilitate their research work in the target country. Cultural aspects of the speakers of the language will be introduced and reinforced.

491. (AFRC491, AFST595) African Language Tutorial - Elementary II. (C) Staff. Prerequisite(s): Permission of Penn Language Center. Offered through Penn Language Center.

Continuation of AFST 490.

492. (AFST596) African Language Tutorial - Intermediate I. (A) Staff. Prerequisite(s): Permission of Penn Language Center. Offered through Penn Language Center.

493. (AFRC493, AFST597) African Language Tutorial - Intermediate II. (B) Staff. Prerequisite(s): Permission of Penn Language Center. Offered through Penn Language Center.

Continuation of AFST 492.

494. (AFST598) African Language Tutorial - Advanced I. (A) Staff. Prerequisite(s): Permission of Penn Language Center. Offered through Penn Language Center.

495. (AFRC495, AFST599) African Language Tutor: Adv II Languages will be specified in each section. (B) Staff. Prerequisite(s): Permission of Penn Language Center.

Continuation of AFST 494.

496. Lanugage & Culture I. (A) Staff.
Prerequisite(s): Permission of Penn Language Center. Offered Through Penn Language Center.

Aspects of the targeted language's history, language, and culture.

509. (ARAB534) Arabic: Reading Historical Manuscripts. (M) Staff.

Arabic language is used by many societies not only in communication but also in correspondence and in documenting the affairs of their daily lives. Arabic script is adopted by many groups who native languages are not Arabic, in writing their language before some moved to the roman alphabet. In many historical documents specific style of writing and handwriting are dominant. This specificity is influenced by the dialectical variations, the historical development of each region and the level of Arabic literacy and use.

517. (AFRC170, AFST170, AFST518) Elementary Yoruba I. (A) Awoyale.
Offered through Penn Language Center.

This is an introductory course in Yoruba whose goals are to introduce students to the history, geographical location of the people who speak Yoruba, their culture, customs, and traditions; and, to enable students to develop communicative skills through listening, speaking, reading and writing.

518. (AFRC171, AFRC517, AFST171, AFST517) Elementary Yoruba II. (B) Awoyale. Offered through Penn Language Center.

The main objective of this course is to further sharpen the Yoruba linguistic knowledge that the student acquired in level I. By the end of the course, the student should be able to (1) read, write, and understand simple to moderately complex sentences in Yoruba; and (2) advance in the knowledge of the Yoruba culture.

529. (AFRC270, AFST270) Intermediate Yoruba I. (A) Awoyale.
Offered through Penn Language Center.

532. (AFRC271, AFRC534, AFST271) Intermediate Yoruba II. (B) Awoyale.
Offered through Penn Language Center.

540. (AFRC240, AFRC540, AFST240, NELC481) Elementary Amharic I. (A) Hailu. Offered through Penn Language Center.

An introductory course for students with no previous knowledge of Amharic. Amharic belongs to the southern branch of Hemeto-Semitic languages which is also referred to as "Afrasian." Amharic is the official

language of Ethiopia and is spoken by 14 million native Amharas and by approximately 18 million of the other ethnic groups in Ethiopia. The goals of this course are to introduce students to the culture, customs, and traditions of the Amharas. Students will develop communicative skills through listening, speaking, reading and writing.

541. (AFRC241, AFRC541, AFST241, NELC482) Elementary Amharic II. (B) Hailu. Offered through Penn Language Center.

Continuation of Elementary Amharic I.

543. (AFRC242, AFRC543, AFST242, NELC483) Intermediate Amharic I. (A) Hailu.

Offered through Penn Language Center

544. (AFRC243, AFRC544, AFST243, NELC484) Intermediate Amharic II. (B) Hailu.

Offered through Penn Language Center

547. (AFRC247, AFRC548, AFST247, NELC583) Advanced Amharic. (C) Hailu. Offered through Penn Language Center.

An advanced Amharic course that will further sharpen the students' knowledge of the Amharic language and the culture of the Amharas. The learners communicative skills will be further developed through listening, speaking, reading and wwriting. There will also be discussions on cultural and political issues.

563. (ANEL563) Old Egyptian. (C) Silverman.

This course is an introduction to the language of the Egyptian Old Kingdom. The grammar of the period will be introduced during the early part of the semester, using Ededl's *ALTAGYPTISCHE GRAMMATIK* as the basic reference. Other grammatical studies to be utilized will include works by Allen, Baier, Polotsky, Satzinger, Gilula, Doret, and Silverman. The majority of the time in the course will be devoted to reading varied textual material: the unpublished inscriptions in the tomb of the Old Kingdom official Kapure--on view in the collection of the University Museum; several autobiographical inscriptions as recorded by Sethe in *URKUNDEN I*; and a letter in hieratic (Baer, *ZAS* 03. 1077. 1-9).

580. (AFRC180, AFST180) Elementary Swahili I. (A) Mshomba.
Offered through Penn Language Center.

Beginning level of Swahili which provides training and practice in speaking, reading and writing with initial emphasis on speaking and listening. Basic grammar, vocabulary and cultural skills learned gradually with priority on the spoken language. Especially during the second term, folktales, other texts and films will be used to help introduce important aspects of Swahili culture.

581. (AFRC181, AFST181) Elementary Swahili II. (B) Mshomba.
Offered through Penn Language Center.

This course continues to introduce basic grammar, vocabulary, and the reading and writing of Swahili to new speakers. During this term, folktales, other texts, and film selections are used to help introduce important aspects of Swahili culture and the use of the language in wide areas of Africa.

582. (AFRC280, AFST280) Intermediate Swahili I. (A) Mshomba.
Offered through Penn Language Center.

583. (AFRC282, AFST281) Intermediate Swahili II. (B) Mshomba.
Offered through Penn Language Center.

584. (AFRC284, AFST284) Advanced Swahili I. (C) Mshomba. Offered through Penn Language Center.

This is an advanced Kiswahili course which will engage learners in extended spoken and written discourse. Advanced learners of Kiswahili will listen to, read about, write and speak on authentic video materials, contemporary novels, and newspapers. They will also participate in various discussions on cultural and political issues.

586. (AFRC285, AFST285) Advanced Swahili II. (C) Mshomba. Offered through Penn Language Center.

587. (AFST370) Advanced Yoruba I. (A) Awoyale. Offered through Penn Language Center.

588. (AFST371) Advanced Yoruba II. (B) Awoyale. Offered through Penn Language Center.

594. (AFST490) Afr Lang Tutor: Elem I. (A)

595. (AFST491) African Language Tutorial - Elementary II. (M)

597. (AFST493) African Language Tutorial - Intermediate II.

598. (AFST494) AFR LANG TUTOR: ADV I.

AFRICANA STUDIES (AS) {AFRC}

SM 019. AFAM Freshman Seminar. (A) Hanchard.

This course will introduce students to a more hemispheric understanding of the American experience, through the writings of many authors from the New World, including the United States, on what it means to be an American. Students will read texts from many genres including but not limited to poetry, film, prose, political speeches and autobiography, to come to terms with histories of native Americans, African-Americans, Latinos, and whites in the United States, as well as peoples of South America and the Caribbean. In the process students will become familiar with scholarship across the social sciences and humanities that consider issues of race, culture, nation, freedom and inequality in the Americas, and how racial slavery and the Afro-American hemispheric experience has informed multiple American visions.

SM 080. Introduction to American Literature. (B) Staff. This course is cross-listed with ENGL 080 (Introduction to American Literature) when the course content is related to Afro-American issues. Topics vary. Consult the Center for Africana Studies for a detailed course description.

A consideration of outstanding literary treatments of American culture from its beginnings until the dawn of the 20th century. Works read generally include autobiographies and travel accounts as well as fiction and poetry.

SM 148. (COML148, RUSS149) Slavery and Serfdom. (M) Wilson.

During the Cold War, the United States and Russia were locked in an ideological battle, as capitalist and communist superpowers, over the question of private property. So how did these two countries approach the most important question regarding property that ever faced human civilization: how could governments justify the treatment of its subjects, people, as property? In 1862, Russia abolished serfdom, a form of human bondage that had existed in its territories since the 11th century. Just a year later, in 1863, Abraham Lincoln signed the Emancipation Proclamation, declaring America's slaves then, thenceforward, and forever free. What forces, both domestic and international, both political and cultural, influenced this near simultaneous awakening in which huge swaths of the Russian and U.S. populations were liberated? While scholars have often

sought to compare slavery and serfdom as institutions, this course does not attempt to draw connections between the two. Rather, we will focus on how the slavery/anti-slavery and serfdom/anti-serfdom debates were framed in each respective country as well as how Russia used American slavery and the U.S. used Russian serfdom to shape their own domestic debates.

Though primarily literary in nature, this course will also take into account historical, journalistic, scientific, and cinematic sources in an attempt to illuminate the cultures of and against bondage that dominated Russia and the U.S., particularly in the 19th century. Attention will also be paid to systems of mass incarceration that emerged in Russia and the U.S. following the abolishment of serfdom and slavery.

SM 321. Understanding African Conflict. (A) Ali-Dinar.

The end of colonial rule was the spring board for the start of cold wars in various regions of Africa. Where peace could not be maintained violence erupted. Even where secession has been attained, as in the new country of South Sudan, the threat of civil war lingers. While domestic politics have led to the rise of armed conflicts and civil wars in many African countries, the external factors should also not be ignored. Important in all current conflicts is the concern to international peace and security. Overall this course will: (1) investigate the general nature of armed conflicts in Africa (2) provide in-depth analysis of the underlining factors (3) and discuss the regional and the international responses to these conflicts and their implications. Special emphasis will be placed upon African conflicts and civil wars in: great Lakes area, Mali, Nigeria, Senegal, Sudan, Somalia, South Sudan, and Uganda.

SM 411. (HIST412, INTR290) TOPICS IN WORLD HISTORY. (C)

Undergraduate Courses

001. (ENGL071, HIST007, RELS007, SOCI027) Introduction to Africana Studies. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Beavers, Butler, Charles, Johnson, Savage, Tillet, Zuberi.

The aim of this course is to provide an interdisciplinary examination of the complex array of African American and other African Diaspora social practices and experiences. This class will focus on both classic texts and modern works that provide an introduction to the dynamics of African American and African Diaspora thought

and practice. Topics include: What is Africana Studies?; The History Before 1492; Creating the African Diaspora After 1500; The Challenge of Freedom; Race, Gender and Class in the 20th Century; From Black Studies to Africana Studies: The Future of Africana Studies.

L/R 002. (SOCIO01) Introduction to Sociology. (C) Society Sector. All classes. Imoagene, Zuberi.

We live in a country which places a premium on individual accomplishments. Hence, all of you worked extremely hard to get into Penn. Yet, social factors also have an impact on life chance. This class provides an overview of how membership in social groups shapes the outcomes of individuals. We will look at a range of topics from the organizational factors which promoted racial inequality in Ferguson, Mo to the refusal of (mostly elite) parents to vaccinate their children. The experience of women and men in the labor market -- and the social factors that lead women to earn less than men -- is another interesting topic taken up in the course. Who gets ahead in America? Course requirements include a midterm, research paper (five to six pages), final and recitation activities. Students are not expected to have any previous knowledge of the topic. Welcome to the course!

L/R 006. (ASAM006, SOCIO06, URBS160) Race and Ethnic Relations. (C) Charles, Kao, Zuberi.

The course will focus on race and ethnicity in the United States. We begin with a brief history of racial categorization and immigration to the U.S. The course continues by examining a number of topics including racial and ethnic identity, interracial and interethnic friendships and marriage, racial attitudes, mass media images, residential segregation, educational stratification, and labor market outcomes. The course will include discussions of African Americans, Whites, Hispanics, and Asian Americans and Multiracials.

SM 010. (PSCI010) Freshman Seminar. (C) Gottschalk.

This course is cross-listed with PSCI 010 (Freshmen Seminar) when the subject matter is related to African American or other African Diaspora issues. Topics vary. A recent topic is "Race, Crime, and Punishment." See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 011. (SOCIO11, URBS112) Urban Sociology. (M) Staff.

This course is a comprehensive introduction to the sociological study of urban areas. This includes more general topics as the rise of cities and theories of urbanism, as well as more specific areas of inquiry, including American urbanism, segregation, urban poverty, suburbanization and sprawl, neighborhoods and crime, and immigrant ghettos. The course will also devote significant attention to globalization and the process of urbanization in less developed countries.

SM 015. (HIST104) Freshman Seminar in 20TH Century History. (C) Williams.

In this First Year Seminar we will use coming-of-age autobiographies to explore some of the most significant historical developments of the 20th century. By coming of age I mean autobiographies in which the author focuses primarily on the periods of childhood and adolescence into young adulthood. We will read books by people who lived during segregation in the South, the Great Depression, Japanese Internment during World War II, and the Civil Rights Movement of the 1960s. We will consider many issues, including: race, racism, immigration, religion, social class, and gender. We will contemplate questions about identity, family, honesty, and memory. As we read each book we will examine an individual life in a particular place and time, and we will move out beyond the confines of a person, family, or town to explore the broader historical moment in which the individual lived. To make this deeper contextualization possible, the course is divided into segments that will allow us to study the historical context of the autobiography as well as engage in focused discussion of the texts themselves.

SM 017. (ENGL016) Topics in Literature. (C) Beavers, Jaji, Tillet.

Freshmen Seminar, Arts Scholars Program. Freshmen Seminars under the title "Topics in Literature" will afford entering students who are considering literary study, the opportunity to explore a particular and limited subject with a professor whose current work lies in that area. Topics may range from the lyric poems of Shakespeare's period to the ethnic fiction of contemporary America. Small class-size will insure all students the opportunity to participate in lively discussions. Students may expect frequent and extensive writing assignments, but these seminars are not writing courses; rather they are intensive

introductions to the serious study of literature.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 041. (SOCIO41, URBS010) Homelessness & Urban Inequality. (C) Culhane.

This freshmen seminar is cross-listed with URBS 010 when the subject matter is related to African, African American, or other African Diaspora issues. A recent topic is "Homelessness and Urban Inequality." See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

This freshman seminar examines the homelessness problem from a variety of scientific and policy perspectives. Contemporary homelessness differs significantly from related conditions of destitute poverty during other eras of our nation's history. Advocates, researchers and policymakers have all played key roles in defining the current problem, measuring its prevalence, and designing interventions to reduce it. The first section of this course examines the definitional and measurement issues, and how they affect our understanding of the scale and composition of the problem. Explanations for homelessness have also been varied, and the second part of the course focuses on examining the merits of some of those explanations, and in particular, the role of the affordable housing crisis. The third section of the course focuses on the dynamics of homelessness, combining evidence from ethnographic studies of how people become homeless and experience homelessness, with quantitative research on the patterns of entry and exit from the condition. The final section of the course turns to the approaches taken by policymakers and advocates to address the problem, and considers the efficacy and quandaries associated with various policy strategies. The course concludes by contemplating the future of homelessness research and public policy.

050. (AFST050, ANTH022, FOLK022, MUSC050) World Musics and Cultures. (C) Arts & Letters Sector. All Classes. Muller, Rommen.

This course examines how we as consumers in the "Western" world engage with musical difference largely through the products of the global entertainment industry. We examine music cultures in contact in a variety of ways-- particularly as traditions in transformation. Students gain an understanding of traditional music as live, meaningful person-to-person music

making, by examining the music in its original site of production, and then considering its transformation once it is removed, and recontextualized in a variety of ways. The purpose of the course is to enable students to become informed and critical consumers of "World Music" by telling a series of stories about particular recordings made with, or using the music of, peoples culturally and geographically distant from the US. Students come to understand that not all music downloads containing music from unfamiliar places are the same, and that particular recordings may be embedded in intriguing and controversial narratives of production and consumption. At the very least, students should emerge from the class with a clear understanding that the production, distribution, and consumption of world music is rarely a neutral process.

SM 056. (AFST056, COML056, MUSC056) South Africa: Contemporary Performance. (L) Muller.

The course begins with four two-hour online classes that provide an overview of South African music, dance, and theater beginning two weeks before the festival. Students will be expected to post to blogs and discussion forums about course materials, audio, video, and readings-- provided online prior to leaving for South Africa. These blogs and discussion materials will be fully integrated into the online lectures. The Grahamstown Festival includes a wide range of events: we will focus on South African jazz, gospel, and art music, with some discussion of dance and theater. All students will be required to post daily to blogs and discussion forums while at the Festival. The class will conclude with two days of discussion, synthesis, and a final essay.

069. (COML069, ENGL069) Poetry and Poetics. (M) Jaji.

This course is cross-listed with ENGL069 (Poetry and Poetics) when the subject is related to African American or other African Diaspora issues.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

L/R 070. (HIST070, LALS070) Colonial Latin America. History & Tradition Sector. All classes. Farnsworth-Alvear, Walker. Fulfills History & Tradition Distribution Requirement.

This course provides an introduction to the broad literature on Latin America's rich colonial history. We will begin by tracing some of the early origins of - and points of

contact between - the Indian, Iberian, and African men and women who formed the basis of colonial society. As the course progresses, we will explore the variety of ways in which colonial subjects lived, worked, ate, worshipped and socialized. Lectures and reading assignments will draw upon a variety of sources, including court cases, artistic renderings, city maps and street plans, travel accounts of visits to the region, and the material, cultural, and intellectual products made possible by the wealth and dynamism of the seventeenth and eighteenth centuries. The course will conclude with an analysis of the Age of Revolutions, a period of dramatic upheaval that remains at the center of lively scholarly debates. By the end of the semester, students will be able to engage the key questions driving these debates, the most important of which, perhaps, is: what is Latin America's colonial legacy?

071. (AFST071, ENGL071) Literatures of Africa and the African Diaspora. (M) Staff.

This course explores an aspect of the literature of Africa and the African Diaspora; specific course topics will vary from year to year.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

L/R 075. (AFST075, HIST075) Africa Before 1800. (B) History & Tradition Sector. All classes. Babou.

Survey of major themes and issues in African history before 1800. Topics include: early civilizations, African kingdoms and empires, population movements, the spread of Islam, and the slave trade. Also, emphasis on how historians use archaeology, linguistics, and oral traditions to reconstruct Africa's early history.

L/R 076. (AFST076, HIST076) Africa Since 1800. (A) History & Tradition Sector. All classes. Cassanelli.

Survey of major themes, events, and personalities in African history from the early nineteenth century through the 1960s. Topics include abolition of the slave trade, European imperialism, impact of colonial rule, African resistance, religious and cultural movements, rise of naturalism and pan-Africanism, issues of ethnicity, and "tribalisms" in modern Africa.

077. (FOLK075, MUSC035) Jazz Style and History. (M) Ramsey.

This course is an exploration of the family of musical idioms called jazz. Attention will be given to issues of style

development, selective musicians, and to the social and cultural conditions and the scholarly discourses that have informed the creation, dissemination and reception of this dynamic set of styles from the beginning of the 20th century to the present.

SM 078. (HIST173, URBS178) Faculty-Student Collaborative Action Seminar in Urban University-Community Relations. (C) Harkavy.

A primary goal of the seminar is to help students develop proposals as to how a Penn undergraduate education might better empower students to produce, not simply "consume," societally-useful knowledge, as well as function as caring, contributing citizens of a democratic society. Please note new location of the class: The Netter Conference Room is on 111 South 38th Street, on the 2nd floor.

Among other responsibilities, students focus their community service on college and career readiness at West Philadelphia High School and Sayre High School. Students are typically engaged in academically based community service learning at the schools for two hours each week.

079. (ENGL080) Literatures of Jazz. (M) Beavers.

That modernism is steeped as much in the rituals of race as of innovation is most evident in the emergence of the music we have come to know as jazz, which results from collaborations and confrontations taking place both across and within the color line. In this course we will look at jazz and the literary representations it engendered in order to understand modern American culture. We will explore a dizzying variety of forms, including autobiography and album liner notes, biography, poetry, fiction, and cinema. We'll examine how race, gender, and class influenced the development of jazz music, and then will use jazz music to develop critical approaches to literary form. Students are not required to have a critical understanding of music. Class will involve visits from musicians and critics, as well as field trips to some of Philadelphia's most vibrant jazz venues.

Topics vary. See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

081. (ENGL081) African-American Literature. (M) Beavers, Davis, Tillet.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 100. (ARTH100) Intro to Art. (C) Du Bois Shaw. For Freshmen only.

Topics Vary. See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

L/R 101. (CIMS115, ENGL101, GSWS101) Study of an Author. (C) Arts & Letters Sector. All Classes. Davis.

This is an introduction to literary study through the works of a single author--often Shakespeare, but some versions of this course will feature other writers. We will read several works and approach them--both in discussion and in writing--from a range of critical perspectives. The author's relation to his or her time, to literary history generally, and to the problems of performance, the likely to be emphasized. Some versions of this course will also serve as an introduction to other members of the English faculty, who will visit the class as guest lecturers.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

106. (COML104, ENGL104) Study of a Literary Period. (C) Davis.

This is an introduction to literary study through a survey of works from a specific historical period. Some versions will begin with traditional stories or poems, including a sampling of works in translation. Others will focus exclusively on modern and contemporary American short fiction or poetry.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

108. (CIMS112, COML245, ENGL102) Study of a Literary Theme. (C) Jaji.

Study of a Literary Theme- For many of us, the first experience of travel is imaginary, through the portal of a novel, film, or memoir. This course combines these narratives of travel and stories of coming of age. At the center of our exploration will be the contemporary rise of Study Abroad programs in U.S. universities. We'll place this in historical context as we consider how cross-cultural encounters have been portrayed, with particular attention to authors of color from the U.S. and the global South. No previous travel experience is assumed other than imaginative; this course is open to students, freshman to senior, from all majors -- especially the undeclared. Materials well consider together include selections from Don Quixote (the adventures of a knight errant and his servant in Spain by Miguel Cervantes), James Baldwin (an African

American in Switzerland and France), Samuel Selvon (a Trinidadian in the UK), Faith Adiele (a Nigerian-American in Burma), Amitav Ghosh (an Indian in Egypt) and Kiana Davenport (a Hawaiian in France). These readings will be complemented by films including two versions of *Around the World in Eighty Days*, *The Motorcycle Diaries*, *Roman Holiday* and *Touki Bouki*. Assignments will include regular journal entries and 2 essays.

112. (GSWS114, SOCI112, URBS114) Discrimination: Sexual and Racial Conflict. (B) Society Sector. All classes. Madden.

This course is concerned with the structure, the causes and correlates, and the government policies to alleviate discrimination by race and gender in the United States. The central focus of the course is on employment differences by race and gender and the extent to which they arise from labor market discrimination versus other causes, although racial discrimination in housing is also considered. After a comprehensive overview of the structures of labor and housing markets and of nondiscriminatory reasons (that is, the cumulative effects of past discrimination and/or experiences) for the existence of group differentials in employment, wages and residential locations, various theories of the sources of current discrimination are reviewed and evaluated. Actual government policies and alternative policies are evaluated in light of both the empirical evidence on group differences and the alternative theories of discrimination.

SM 114. (ENGL113) Poetry Writing Workshop. (A) Beavers. This course is not open to freshmen. Students wishing to take this course must submit a writing sample as part of the selection process.

This workshop is intended to help students with prior experience writing poetry develop techniques to generate poems along with the critical tools necessary to revise and complete them. Through in-class exercises, weekly writing assignments, readings of established poets, and class critique, students will acquire an assortment of resources that will help them develop a more concrete sense of voice, rhythm, metaphor, and the image as well as a deeper understanding of how these things come together to make a successful poem. In addition to weekly writings, students will be asked to keep a journal, and to produce a final portfolio of poems.

115. (RELS112) Religious Ethics and Modern Society. (C) Butler.

Religious beliefs of Malcolm X and MLK formed their social action during the Civil Rights for African Americans. This seminar will explore the religious biographies of each leader, how religion shaped their public and private personas, and the transformative and transgressive role that religion played in the history of the Civil Rights movement in the United States and abroad. Students in this course will leave with a clearer understanding of religious beliefs of Christianity, The Nation of Islam, and Islam, as well as religiously based social activism. Other course emphases include the public and private roles of religion within the context of the shaping of ideas of freedom, democracy, and equality in the United States, the role of the "Black church" in depicting messages of democracy and freedom, and religious oratory as exemplified through MLK and Malcolm X.

See Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

117. (ENGL016, RELS117) African American Religion. (C) Butler.

The unique history and experiences of African Americans can be traced through religion and belief. Through the mediums of literature, politics, music, and film, students will explore the religious experiences of people of the African Diaspora within the context of the complex history of race in American history. The course will cover a broad spectrum of African American religious experience including Black Nationalism, urban religions, the "black church" and African religious traditions such as Santeria and Rastafarianism. Special attention will be paid to the role of race, gender, sexuality, and popular culture in the African American religious experience.

L/R 120. (SOCI120) Social Statistics. (C) Charles.

This course offers a basic introduction to the application/interpretation of statistical analysis in sociology. Upon completion, you should be familiar with a variety of basic statistical techniques that allow examination of interesting social questions. We begin by learning to describe the characteristics of groups, followed by a discussion of how to examine and generalize about relationships between the characteristics of groups. Emphasis is placed on the understanding/interpretation of statistics used to describe and make generalizations about group characteristics. In addition to hand calculations, you will

also become familiar with using PCs to run statistical tests.

SM 121. (ENGL121) Writing for Children. (C) Cary. This course is not open to freshmen. Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with a different instructor.

We will read our favorite kids' books, determine the kinds of books we love to read and write, and then write them, aiming at a clear voice appropriate to the story, and as much order or misrule as each writer's kid-muse demands. For inspiration, we'll visit the Maurice Sendak Collection at the Rosenbach Museum and Library and have a nostalgia wallow in the kids' section at the library. Then students write, fast-fast, drafts of stories to workshop, mull and revise. Yes, fun is required. For sure we'll critique, but first we'll try to outrun our interior grown-up! Workshoping happens first with student writer colleagues, and then with the real kids in schools, through our partner West Philadelphia Alliance for Children. Reading to children will give studentwriters a chance to hear where children laugh, see where they look scared, or notice when they begin to fidget. Returning with revisions will be a promise fulfilled, and an important marker in the literary life of everyone involved. Our class will act as a team of editors, then, to submit stories-andillustrations by authors and/or kids-on the upcoming website, SafeKidsStories.org.

SM 134. (ENGL135) Creative Non-Fiction Writing. (C) Cary.

This class is designed to advance students' writing practice, discipline, and workshop and critiquing skills. Student writers will create non-fiction narrative in several forms: blogs, memoir, interviews, Q&As, essays. We will play with promotion, video, and social marketing, even grant proposals, advertisements, public service announcements, queries, and photo captions -all the forms that writers actually use throughout careers of deep reflection followed by hustle-and-pitch. The class will act as an editorial group for SafeKidsStories.org, a site to be launched in the fall of 2015. The idea is to depict safety with the specificity and drama that we usually reserve for conflict. Your writing will explore Big Questions about the social, emotional, relational and physical structures that affect our children and youth; your research, interviews, reporting, and experience will discover and share solutions. If we do the job right, we will shine a light on people in our midst

creating structures of safety for kids in an era of fear. If we make it fun to read, look at, and listen to, too, then, like a few historic college courses that participate substantively in their communities, we'll be on our way to stealth culture change.

135. (AFST135, SOCI135) Law and Society. (C) Fetni.

After introducing students to the major theoretical concepts concerning law and society, significant controversial societal issues that deal with law and the legal systems both domestically and internationally will be examined. Class discussions will focus on issues involving civil liberties, the organization of courts, legislatures, the legal profession and administrative agencies. Although the focus will be on law in the United States, law and society in other countries of Africa, Asia, Europe and Latin America will be covered in a comparative context. Readings include research, reports, statutes and cases.

140. (AFST140) Elementary Zulu I in Residence. (A) Mbeje. OBJECTIVE: Attainment of Level 1 (ceiling) in speaking, listening, reading, and writing skills on the Interagency Language Roundtable (ILR) scale.

This elementary course is for beginners and it requires no prior knowledge of Zulu. The course will expose students to the Zulu language and culture and will be based in the National Standards for Foreign Language Learning. Students will be engaged in communicative language learning through interpersonal, interpretive and presentational modes of language learning techniques. They will gain knowledge and understanding of the Zulu culture. They will use their Zulu language and culture learning experience to connect with other disciplines and further their knowledge of these disciplines through perspectives acquired from their Zulu class. They will also develop insight into the nature of language and culture through comparisons of the Zulu language and culture and their own. Through movies, songs, and other cultural activities online students will acquire the natural use of the language which will enable them to acquire linguistic and cultural skill to become life-long learners who can participate in Zulu communities in the U.S. and overseas.

147. (FOLK106, MUSC235) Studies in African American Music. (M) Ramsey.

This course explores aspects of the origins, style development, aesthetic philosophies, historiography, and contemporary conventions of African-American musical

traditions. Topics covered include: the music of West and Central Africa, the music of colonial America, 19th century church and dance music, minstrelsy, music of the Harlem Renaissance, jazz, blues, gospel, hip-hop, and film music. Special attention is given to the ways that black music produces "meaning" and to how the social energy circulating within black music articulates myriad issues about American identity at specific historical moments. The course will also engage other expressive art forms from visual and literary sources in order to better position music making into the larger framework of African American aesthetics.

SM 167. (AFST167, HIST167, URBS167) THE NEW AFRICAN DIASPORA: AFRICAN IMMIGRANT LIVES IN WEST PHILADELPHIA. Cassanelli.

This seminar will examine the experiences of recent African immigrants and refugees in Philadelphia in an historical framework. We will employ a variety of sources- newspapers, census data, legal briefs, literature and film, and diaspora internet sites- to explore the lives, aspirations, and perceptions of Philadelphia's African residents. There will be opportunities for dialogue with high school students, teachers, and parents; with representatives of African community and business organizations; and with local government and service agencies. Students will be required to do a final project which involves volunteering with an African immigrant non-profit or business and/or conducting focused research on specific African communities in Philadelphia.

168. (HIST168) History of American Law to 1877. (A) Berry.

This course surveys the development of law in the U.S. to 1877, including such subjects as: the evolution of the legal profession, the transformation of English law during the American Revolution, the making and implementation of the Constitution, and issues concerning business and economic development, the law of slavery, the status of women, and civil rights.

169. (HIST169) History of American Law Since 1877. (B) Berry.

This course covers the development of legal rules and principles concerning individual and group conduct in the United States since 1877. Such subjects as regulation and deregulation, legal education and the legal profession, and the legal status of women and minorities will be discussed.

L/R 172. (HIST170) The American South. (C) History & Tradition Sector. All classes. Hahn.

This course will cover southern culture and history from 1607-1860, from Jamestown to secession. It traces the rise of slavery and plantation society, the growth of Southern sectionalism and its explosion into Civil War.

175. (HIST175, LALS175) Society and Culture of Brazil. Walker.

With its booming economy, the recent inauguration of its first female president, and its selection as host to the 2012 World Cup and Olympic games, Brazil is growing in global prestige. But amid all these exciting developments are devastating socioeconomic inequalities. Access to safe living conditions, livable wages, higher education, and overall social mobility remain painfully out of reach to many Brazilians, the majority of whom are the descendants of slaves. Why do these problems persist in a country that has had such an enduring and widespread reputation as a "racial democracy"? What are the possibilities of closing the equality gap in Brazil?

176. (HIST176) Afro-American History 1550-1876. (D) History & Tradition Sector. All classes. Akins, Williams.

This course will study the history of African-Americans from their first encounter with Europeans in the 16th century to their emancipation during the Civil War. This course will concentrate on the variety of black responses to capture, enslavement, and forced acculturation in the New World. The difference in the slave experience of various New World countries, and the methods of black resistance and rebellion to varied slave systems will be investigated. The nature and role of the free black communities in antebellum American will also be studied.

177. (HIST177) Afro-American History 1876 to Present. (C) History & Tradition Sector. All classes. Harris, Savage.

A study of the major events, issues, and personalities in Afro-American history from Reconstruction to the present. The course will also examine the different slave experiences and the methods of black resistance and rebellion in the various slave systems.

190. (AFST190, ANTH190, HIST190) Introduction to Africa. (A) Society Sector. All classes. Hasty.

This course provides an introduction to the study of Africa in all its diversity and complexity. Our focus is cultural, geographical, and historical: we will seek to understand Africa's current place in the world political and economic order and learn about the various social and physical factors that have influenced the historical trajectory of the continent. We study the cultural formations and empires that emerged in Africa before European colonial invasion and then how colonialism reshaped those sociocultural forms. We'll learn about the unique kinds of kinship and religion in precolonial Africa and the changes brought about by the spread of Islam and Christianity. Finally, we'll take a close look at contemporary issues such as ethnic violence, migration, popular culture and poverty, and we'll debate the various approaches to understanding those issues.

209. (AFST209, ARTH209) African Art. (M) Staff.

This selective survey will examine a variety of the circumstances of sub-Saharan African art, ranging from imperial to nomadic cultures and from ancient times to contemporary participation in the international market. Iconography, themes and style will be considered, as will questions of modernity, religious impact, tradition and colonialism.

218. (LGST218) Race, Racism and American Law. (C) Anderson.

The goal of this course is to study the role the law has played, and continues to play, in addressing the problems of racial discrimination in the United States. Contemporary issues such as racial profiling, affirmative action, and diversity will all be covered in their social and legal context. The basis for discussion will be assigned texts, articles, editorials and cases. In addition, interactive videos will also be used to aid class discussion. Course requirements will include a term paper and class presentations.

222. (AFST221, GSWS222) African Women's Lives: Past and Present. (M) Blakley.

Restoring women to African history is a worthy goal, but easier said than done. The course examines scholarship over the past forty years that brings to light previously overlooked contributions African women have made to political struggle, religious change, culture preservation, and economic development from pre-colonial times to present. The course addresses basic

questions about changing women's roles and human rights controversies associated with African women within the wider cultural and historical contexts in which their lives are lived. It also raises fundamental questions about sources, methodology, and representation, including the value of African women's oral and written narrative and cinema production as avenues to insider perspectives on African women's lives.

225. (AFST225) African Languages and Culture. (C) Mbeje.

The aim of the course is to provide an overall perspective on African languages and linguistics. No background in linguistics is necessary. Students will be introduced to theoretical linguistics—its concepts, theories, ways of argumentation, data collection, data analysis, and data interpretation. The focus will be on the languages and linguistics of Africa to provide you with the knowledge and skills required to handle the language and language-related issues typical of African conditions. We will cover topics related to formal linguistics (phonology/phonetics, morphology, syntax, and semantics), aspects of pragmatics as well as the general socio-linguistic character of African countries. We will also cover language in context, language and culture, borrowing, multilingualism, and cross-cultural communication in Africa.

SM 230. (AFRC533, SOCI230, SOCI530) Special Topics in Sociology. (C) Charles, Zuberi, Roberts. This course is cross-listed with SOCI 430 (Special Topics in Sociology) when the subject matter is related to African, African American, or other African Diaspora issues.

Topics vary. Recent courses offered include "Africana Urbanization," "Race Relations in American Cities," and "Sociology of the Black Community." SPRING 2015: Race, Science and Society - What is the role of the life sciences in shaping our understanding of race? How has racial stratification influenced scientists and how have scientists constructed racial difference and helped to maintain or contest racial inequities in society? This seminar draws on an interdisciplinary body of biological and social scientific literature to explore the connections between race, science, and society in the United States from the eighteenth century to the current genomic age. After laying a historical foundation, we will focus on the recent expansion of genomic research and technologies that treat race as a biological category that can be identified at the

molecular level, including race-specific pharmaceuticals, commercial ancestry testing, and racial profiling with DNA forensics. We will discuss the significance of this increase in race consciousness in genomic research and technology at a time when colorblindness and post-racialism are gaining popularity. Students will investigate further specific topics related to race, genetics, and biotechnologies in their research papers.

SM 231. (AFST231, CIMS210, FREN231) Cinema Francophone. (M) Moudileno.

This course will introduce students to recent films by major directors from Francophone Africa. While attention will be given to aesthetic aspects and individual creativity, the viewing and discussions will be mostly organized around a variety of (overlapping) themes: History; Tradition/Modernity; Urban Life; Gender and Sexuality; Politics. Class conducted in French.

L/R 232. (PSCI231) Race and Ethnic Politics. (M) Gillion.

This course examines the role of race and ethnicity in the political discourse through a comparative survey of recent literature on the historical and contemporary political experiences of the four major minority groups (Blacks or African Americans, American Indians, Latinos or Hispanic Americans, and Asian Americans). A few of the key topics will include assimilation and acculturation seen in the Asian American community, understanding the political direction of Black America in a pre and post Civil Rights era, and assessing the emergence of Hispanics as the largest minority group and the political impact of this demographic change. Throughout the semester, the course will introduce students to significant minority legislation, political behavior, social movements, litigation/court ruling, media and various forms of public opinion that have shaped the history of racial and ethnic minority relations in this country. Readings are drawn from books and articles written by contemporary political scientists.

235. (SOCI235) Law and Social Change. (C) Fetni.

Beginning with discussion of various perspectives on social change and law, this course then examines in detail the interdependent relationship between changes in legal and societal institutions. Emphasis will be placed on (1) how and when law can be an instrument for social change, and (2) how and when social change can cause legal change. In the

assessment of this relationship, emphasis will be on the laws of the United States. However, laws of other countries and international law relevant to civil liberties, economic, social and political progress will be studied. Throughout the course, discussions will include legal controversies relevant to social change such as issues of race, gender and the law. Other issues relevant to State-Building and development will be discussed. A comparative framework will be used in the analysis of this interdependent relationship between law and social change.

SM 237. UNDERGRAD RESEARCH SEM. (B)

L/R 252. (SOC1252) Human Rights. (M) Zuberi.

Sociology provides a unique way to look at human behavior and the world. We live in a world of diverse and conflicting values in which human rights and respect for human dignity have provided a platform for convergence. One important instance of such convergence has been the development of international norms prohibiting genocide, crimes against humanity, war crimes and ethnic cleansing. While there is agreement on fundamental principles as reflected in the Universal Declaration of Human Rights, differences in interpretation remain. A platform for convergence requires the engagement of a number of constituencies, in particular, state and inter-state entities, corporations, civil society and individuals, as well as the mutual reinforcement of their rights and duties. This course will critically cover the history, practice and social significance of human rights.

257. (AFST257, PSCI210) Contemporary African Politics. (C) Staff.

A survey of politics in Africa focusing on the complex relationships between state, society, the economy, and external actors. It will cover colonial rule, the independence struggle, authoritarian and democratic statecraft, international debt, economic development, military rule, ethnicity, and class.

258. (ANTH256, FOLK259, LALS258, MUSC257, MUSC258) Caribbean Music and Diaspora. (M) Rommen.

This course considers Caribbean musics within a broad and historical framework. Caribbean musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion, and social structure are embodied in and contested through performance. These

initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Caribbean contexts--concepts such as post-colonialism, migration, ethnicity, hybridity, syncretism, and globalization. Each of these concepts, moreover, will be explored with a view toward understanding its connections to the central analytical paradigm of the course--diaspora. Throughout the course, we will listen to many different styles and repertoires of music ranging from calypso to junkanoo, from rumba to merengue, and from dance hall to zouk. We will then work to understand them not only in relation to the readings that frame our discussions but also in relation to our own North-American contexts of music consumption and production.

268. (AFST268, SOC1268) Contemporary Issues in the African Society. Imoagene, Zuberi.

This course will deal with law and society in Africa. After surveying the various legal systems in Africa, the focus will be on how and to what extent the countries of Africa "re-Africanized" their legal systems by reconciling their indigenous law with western law and other legal traditions to create unified legal systems that are used as instruments of social change and development. Toward this end, the experiences of various African countries covering the various legal traditions will be included. Specific focus will be on laws covering both economic and social relations. This emphasis includes laws of contracts and civil wrongs, land law, law of succession, marriage and divorce and Africa's laws of International Relations, among other laws. Throughout this course a comparative analysis with non-African countries will be stressed.

L/R 269. (PSCI271) Constitutional Law: Public Power & Civil Rights to 1912. (C) Smith.

This course explores the creation and transformations of the American constitutional system's structures and goals from the nation's founding through the period of Progressive reforms, the rise of the Jim Crow system, and the Spanish American War. Issues include the division of powers between state and national governments, and the branches of the federal government; economic powers of private actors and government regulators; the authority of governments to enforce or transform racial and gender hierarchies; and the extent of religious and expressive freedoms and rights of persons accused of crimes. We will pay special attention to the

changing role of the Supreme Court and its decisions in interpreting and shaping American constitutionalism, and we will also read legislative and executive constitutional arguments, party platforms, and other influential statements of American constitutional thought.

SM 276. (ENGL271) Topics In the Literature of Africa and the African Diaspora. (M) Staff. Spaces will be reserved for English Majors.

This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 281. (COML325, ENGL281, GSWS281) Topics in African American Literature. (M) Beavers, Davis, Jackson, Tillet. Spaces will be reserved for English Majors.

In this advanced seminar, students will be introduced to a variety of approaches to African American literatures, and to a wide spectrum of methodologies and ideological postures (for example, The Black Arts Movement). The course will present an assortment of emphases, some of them focused on geography (for example, the Harlem Renaissance), others focused on genre (autobiography, poetry or drama), the politics of gender and class, or a particular grouping of authors. Previous versions of this course have included "African American Autobiography," "Backgrounds of African American Literature," "The Black Narrative" (beginning with eighteenth century slave narratives and working toward contemporary literature), as well as seminars on urban spaces, jazz, migration, oral narratives, black Christianity, and African-American music. See Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

294. (ARTH274, ARTH674, ASAM294, CIMS293, LALS294) Facing America. (M) Shaw.

This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We will also investigate the ways that these creations have subsequently helped to

launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.

SM 296. (ARTH293, CIMS295, COML295, ENGL295) Topics in Cultural Studies. (M) Decherney, Brar.

Blackness Across Media - How is blackness produced, disseminated and received across sonic, visual and written media? It is understood as a racial category, a cultural aesthetic, or a politics? Can it ever be considered a color amongst other colors? This course is situated at the conceptually unstable but intellectually productive intersection of sound, optics and text. It seeks to use this intersection to speculate on the question of blackness within media, artistic and political practice. The intention is interrogate how the category of blackness animates and disrupts many of the sensory experiences of the world within global capitalism.

SM 303. (ARTH301, CIMS300, ENGL294) Undergraduate Seminar. (M) Shaw. Undergraduate Major Preference.

Topic varies. This course is cross-listed with ARTH 301 (Undergraduate Seminar) when the subject matter is related to African, African American, or other African Diaspora issues.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 308. (RELS310) Religious Diversity in America. (M) Butler. This course is cross-listed with RELS 310 (Religious Diversity in America) when the subject matter is related to African, African American, or other African Diaspora issues. A recent topic is Religious Diversity and Social Change in West Philadelphia.

SPRING 2017 TOPIC: American Jesus - Images and beliefs about Jesus have always been a compelling part of American life. This course seeks to examine the social, political, religious and artistic ways that Jesus has been appropriated and used in American life, making him a unique figure for exploring American religious life. Special attention will be given to how Jesus is used to shape social and political concerns, including race, gender, sexuality, and culture.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 310. Sustainable Development in Ghana. (A) Staff. Prerequisite(s):

Participation in the International Development Summer Institute (IDSI).

This course is mandatory for students participating in the International Development Summer Institute (IDSI). IDSI is a service learning and training program for undergraduates that provides students with the opportunity to have an applied learning and cultural experience in Ghana. The program consists of 5 weeks of pre-program preparation at Penn and a 4-week long training program on the campus of Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi, Ghana. More Info: <http://www.seas.upenn.edu/undergraduate/service-learn/idsi/index.php>

SM 322. (HIST322) AMERICAN SLAVERY AND THE LAW. (B) WILLIAMS.

In this course, we will work both chronologically and thematically to examine laws, constitutional provisions, and local and federal court decisions that established, regulated, and perpetuated slavery in the American colonies and states. We will concern ourselves both with change over time in the construction and application of the law, and the persistence of the desire to control and subjugate enslaved people. Our work will include engagement with secondary sources as well as immersion in the actual legal documents. Students will spend some time working with Mississippi murder cases from the 19th century. They will decipher and transcribe handwritten trial transcripts, and will historicize and analyze the cases with attention to procedural due process as well as what the testimony can tell us about the social history of the counties in which the murders occurred. The course will end with an examination of Black Codes that southern states enacted when slavery ended.

SM 325. (ENGL280) Performance in the African Diaspora. (C) Berger.

Formerly AFRC 309. Writing Out Loud.

The purpose of this course is to engage students in the rigorous process of mining experiences for material that can be transformed into a public performance piece. In-class writing, group discussions, and field work in the Philadelphia area. Fall 2015 Topic: AUGUST WILSON - The people need to know the story. See how they fit into it. See what part they play. - August Wilson, King Hedley II. In this seminar, students will read groundbreaking playwright August Wilson's 20th Century Cycle: ten plays that form an iconic picture

of African American traumas, triumphs, and traditions through the decades, told through the lens of Pittsburgh's Hill District neighborhood. Other readings include supporting material on Wilson's work and African American theatre, the works of contemporary playwrights whom Wilson has influenced (such as Suzan-Lori Parks and Tarell Alvin McCraney), and context on Penn's relationship with West Philadelphia.

As an Academically Based Community Service (ABCS) course, this seminar gives students the opportunity to enhance their understanding of the plays, and history and culture that shaped them, by forming meaningful relationships with West Philadelphia residents. Wilson's plays provide the bridge between the two groups. The course culminates with students writing an original theatre piece inspired by the readings and relationships, which they will share at an end-of-semester performance.

SM 326. (GSWS326) Theories in Gender and Sexuality Studies. (A)

Keirbeck. Prerequisite(s): A prior course in gender, sexuality and women's studies.

FALL 2015: QUEER VALUES - What are queer cultural experiences and values? Many academics and social movements have noted that the radical aspirations of queer theory and activism not only disrupt but also shore up neoliberal ideologies. In this course students will explore the historical co-emergence of queer cultures and neoliberalism by examining the promises and pitfalls of queer politics over the past quarter century. The coining of queer theory by Theresa de Lauretis in 1990 was intended as a disruptive joke. Its provocation resided in joining queer, an appropriation of street slang bandied about among New York City activists and artists in the 1980s, to theory, the passport of privilege in academic life. The irrelevance of her joke exemplifies a central ethic of queer experience that renders palpable the tensions between margins and centers. The course will traverse scholarship from economic and queer anthropology, history, sociology & science studies, philosophy, political theory and literary studies.

This wide survey of literature will allow students to develop an understanding of the political and economic processes that have conditioned the emergence of queerness as a diverse range of ethical commitments in particular sociocultural contexts globally. Students will investigate the affective dimensions of the emergence of queer theory, studies and activism within the United States and elsewhere in the context of global neoliberal social reforms.

The course is split into four units: 1) In the Place of Queer Origins; 2) Queer Values; 3) Queer Circulations and Subjectivities; and 4) Queer Temporalities.

L/R 345. (HIST345) Race and Sex in Early America. (A) Brown.

This course explores the lost worlds of sinners, witches, sexual offenders, rebellious slaves, and Native American prophets from the seventeenth to nineteenth centuries. Using the life stories of unusual individuals from the past, we try to make sense of their contentious relationships with their societies. By following the careers of the trouble-makers, the criminals, and the rebels, we also learn about the foundations of social order and the impulse to reform that rocked American society during the nineteenth century.

L/R 346. (GSWS346, HIST346) Gender in Modern American History. (B) Brown, Peiss.

This course explores how immigration, industrialization, racial segregation, and the growing authority of science transformed the fundamental conditions of women's lives in the late nineteenth and early twentieth centuries. Building on previous efforts by female reformers to perfect society, women at the turn of the century organized large social movements dedicated to improving the lives of women and children and gaining public access to political power. We will examine the fruits of this activism as well as the consequences of subsequent events for the rise of several important social movements in the latter half of the century -- including civil rights, women's liberation, and gay rights -- in which women played a vital role. The course concludes with an assessment of feminism in the present day, with special emphasis on the responses of younger women to its legacy.

SM 352. (ENGL353) Topics In 19th-Century American Literature. (M) Davis. Formerly ENGL 383. Benjamin Franklin Seminar.

This course explores an aspect of 19th-Century American literature intensively; specific course topics will vary from year to year.

SM 371. (ENGL371) Topics in the Literature of Africa and the African Diaspora. (M) Staff. Benjamin Franklin Seminar.

This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 372. (AFST373, HIST371, HIST412) Africa & the Mid-East. (C) Eve Troutt Powell, Young.

This seminar will explore the historical relationship between these two regions from the early modern age to the present. We will examine the history of trade, particularly the slave trade, and its cultural and political legacy. We will compare the experiences of European imperialism--how the scramble for Africa dovetailed with the last decades of the Ottoman Empire--with an eye to how this shaped nationalist movements in both regions. The course will also explore the decades of independence with a special eye towards pan-Africanism and pan-Arabism. We will also study the ramifications of the Arab-Israeli conflict on the relationship between African and Middle-Eastern countries, from Uganda to Ethiopia, from OPEC to Darfur. This course will pay close attention to migrations through the regions, whether forced or economic or religious. Whenever possible we will explore, through film and literature, how people in Africa and the Middle East see their connections, and their differences.

SM 381. (ENGL381) Topics in African American Literature. (M) Staff. Benjamin Franklin Seminar.

In this advanced seminar, students will be introduced to a variety of approaches to African American literatures, and to a wide spectrum of methodologies and ideological postures (for example, The Black Arts Movement). The course will present an assortment of emphases, some of them focused on geography (for example, The Harlem Renaissance), others focused on genre (autobiography, poetry or drama), the politics of gender and class, or a particular grouping of authors. Previous versions of this course have included "African American Autobiography," "Backgrounds of African American Literatures," "The Black Narrative" (beginning with eighteenth century slave narratives and working toward contemporary literature), as well as seminars on urban spaces, jazz, migration, oral narratives, black Christianity, and African-American music.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 387. (COMM387, GSWS387, HIST387, LALS387, SOCI340) Topics in Africana Studies. (C) Osuji, Sanders-Johnson, Willis.

Topics vary: Black Feminist Approaches to History & Memory - The term black feminism emerged in public discourse amid the social, political, and cultural turbulence of the 1960s. The roots of black feminism, however, are much older, easily reaching back to the work of black women abolitionists and social critics of the nineteenth century. The concept continued to grow and evolve in the work of twentieth century black women writers, journalists, activists, and educators as they sought to document black women's lives. Collectively, their work established black feminism as a political practice dedicated to the equality of all people. More recently, black feminism has been deployed as a tool for theoretical and scholarly analysis that is characterized by an understanding that race, class, gender, and sexuality are inextricably interconnected.

Using materials such as slave narratives, social criticism, and archival sources, this course will explore the theoretical and practical applications of black feminist thought in nineteenth and twentieth century North American culture and politics. In particular, we will consider the symbols and practices (storytelling, myth-making, art, archival research) that black women use to document lives. We will ask: how do these methods of documentation inform our understanding of the past and the production of historical knowledge? How can we understand black feminism as both theory and practice? And what are the implications of black feminist approaches for current research and scholarship? We will give particular attention to concepts such as gender, race, memory, the archive, and embodied knowledge to complicate our understanding of historical documentation, epistemology, and authenticity. The course material will include scholarship by Harriet Jacobs, Audre Lorde, Saidiya Hartman, Hazel Carby, Hershini Young, Evelyn Brooks Higginbotham, Toni Morrison, and others. (Image: From *In Praise of Shadows*, Kara Walker (2009).

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 391. (AFST390, FREN390) Survey Francophone Literature. (M) Moudileno.

A brief introduction about the stages of French colonialism and its continuing political and cultural consequences, and then reading in various major works --

novels, plays, poems -- in French by authors from Quebec, the Caribbean, Africa (including the Maghreb), etc. of interest to majors in International Relations, Anthropology and African Studies as well as majors in French. Taught in French.

SM 392. (ARTH389, CIMS392, COML391, ENGL392, SLAV392) Topics in Cinema Studies. (M) Staff.

This topics course explores aspects of Cinema Studies intensively. Specific course topics vary from year to year.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 400. (CIMS370) Seminar in Africana Studies. (C) Bogle.

This course is an examination and analysis of the changing images and achievements of African Americans in motion pictures and television. The first half of the course focuses on African-American film images from the early years of D.W. Griffith's "renegade bucks" in *The Birth of a Nation* (1915); to the comic servants played by Steppin Fetchit, Hattie McDaniel, and others during the Depression era; to the post-World War II New Negro heroes and heroines of *Pinky* (1949) and *The Defiant Ones* (1958); to the rise of the new movement of African American directors such as Spike Lee (*Do the Right Thing*), Julie Dash (*Daughters of the Dust*), Charles Burnett, (*To Sleep With Anger*) and John Singleton (*Boyz n the Hood*). The second half explores television images from the early sitcoms "Amos 'n Andy" and "Beulah" to the "Cosby Show," "Fresh Prince of Bel Air," and "Martin." Foremost this course will examine Black stereotypes in American films and television--and the manner in which those stereotypes have reflected national attitudes and outlooks during various historical periods. The in-class screenings and discussions will include such films as *Show Boat* (1936), the independently produced "race movies" of the 1930s and 1940s, *Cabin in the Sky* (1943), *The Defiant Ones* (1958), *Imitation of Life* (the 1959 remake) & *Super Fly* (1972).

SM 431. (AFRC531, AFRC630, SOCI430, SOCI630) Advanced Special Topics in Sociology. (M)

Charles, Zuberi.

This course is cross-listed with SOCI 430 (Advanced Topics in Sociology) when the subject matter is related to African, African American, or other African Diaspora issues. Recent courses offered include "Race, Colonialism and Methods,"

"Residential Segregation," and Race, Space and Inequality.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 433. (PSCI433) Social Movement. (C) Gillion.

Social movements and political protest have become some of the most effective tools for citizens and non-citizens to influence the political system. This course is designed to introduce students to the theoretical and methodological approaches taken in understanding these behaviors. Analyzing social movements that range from civil discontent to contentious political protest, the course will address a variety of questions: What is the origin of movement behavior and why do individuals turn to these actions in lieu of simply engaging in institutional modes of political action such as voting? What were the strategies of these movements? What are the political conditions that allow social movements to resonate with the American public? In addition to addressing these topics, this course surveys the policy successes of major social and political movements. From the Civil Rights and Women's Right Movement to the recent 2010 Tea Party movement, this course explores the various public policies that have resulted from citizens' protest actions. While state-level and local-level government responsiveness will be addressed, special attention will be given to how political protest influences public policy in all three branches of the federal government.

SM 435. (PSCI434) MODERN PRESIDENCY & RACE. (M) GILLION.

This seminar is designed to serve as a "capstone" experience for advanced undergraduates interested in American politics. It exposes students to some of the issues currently being studied and debated by the leading scholars in the field. For each topic we will read works that take competing or opposing positions on an issue; for example we will examine the current controversy over the causes and consequences of divided government. Students will write a research paper analyzing one of the debates.

SM 437. (AFRC638, PSCI437, PSCI638) Race & Criminal Justice. (M) Gottschalk.

This seminar analyzes the connection between race, crime, punishment, and politics in the United States. The primary focus is on the role of race in explaining why the country's prison population

exploded since the early 1970s and why the United States today has the highest incarceration rate in the world. Topics to be covered include: the early history of race in the development of the criminal justice system, including an examination of lynchings and the convict-leasing system; the relationship between the crime rate, patterns of offending and arrests, and the incarceration rate; public opinion and "law-and-order" politics; U.S. penal policies compared with other industrialized countries; capital punishment; the growth of the prison-industrial complex; the "war on drugs"; the courts, prisoners' rights, and political prisoners; felon disenfranchisement, elections, and democracy; and the future of penal reform. The class will take field trips to a maximum-security jail in Philadelphia and to a state prison in the Philadelphia suburbs. This seminar is intended for both advanced undergraduates and graduate students.

SM 480. (URBS480) Liberation and Ownership. (A) Lamas.

Who is going to own what we all have a part of creating? The history of the Americas, and of all peoples everywhere, is an evolving answer to the question of ownership. Ownership is about: the ties that bind and those that separate; the creation of community and the imposition of hierarchies; the dream of home ownership and ecological despoliation; dependency and the slave yearning to breathe free. Of all the issues relevant to democracy, oppression, and economic injustice, ownership is arguably the most important and least understood. Utilizing a variety of disciplinary perspectives, and by focusing on particular global sites, students will assess and refine their views regarding ownership in light of their own social, political, religious, and/or ethical commitments.

Graduate Courses

522. (EDUC522) Psychology of the African-American. (B) Stevenson.

Using the Afro-centric philosophical understanding of the world, this course will focus on psychological issues related to African Americans, including the history of African American psychology, its application across the life span, and contemporary community issues.

SM 524. (PSCI535) INEQUALITY AND RACE POLICY. (M) Gillion.

SM 527. (GSWS527, HIST660, LALS527) Advanced Seminars in Africana Studies. (C) Sanders Johnson.

This course examines the lived and shared experiences and representations of Caribbean and Latin American women. We will discuss the relationship between gender, labor, sexuality, religion, and race in the Caribbean and the ways these concepts intersect with women's individual subjectivity and national identity. By examining primary sources—such as speeches and letters—alongside historical scholarship, literature, and popular media, we will study the impact of slave society and colonial pasts on representations of women and construction of womanhood in the modern Caribbean and Latin America and the diasporas through the 20th century. Beginning with late-18th century and ending with contemporary migration narratives of each country, we will study the local and regional political conditions that informed gender norms, social movements, and characterizations of Caribbean sexuality globally. In our historical examination, we will question some of the iconic representations of Caribbean and Latin American women—the racially mixed temptress, the pious matriarch, and the poor uneducated laborer—to understand the meaning, purpose and usages Caribbean women's bodies as objects of praise, possession, obsession and/or ridicule by communities, governments and religions within and outside of the Caribbean.

In our interrogation of gender meanings, we will consider the ways Caribbean women and men define themselves and each other, while considering the intersections of color, class, religion and culture on the political and social realities of the Caribbean and the region. The geographic scope of the course will extend to Haiti, the Dominican Republic, Jamaica, Cuba, Puerto Rico, Costa Rica and Trinidad & Tobago. The following interrelated questions will anchor our exploration of each text: How have representations of Caribbean and Latin American women informed historical constructions and rhetoric of the region and national identity? What political and social strategies have Caribbean women and men used to define themselves in their countries and throughout the region? How do the history and contemporary conditions of a post-colonial nation impact the gender construction of Caribbean identities? What is the relationship between modern Caribbean gender identities and the regional racial and economic politics?

SM 528. (SOCI530, SWRK798) Advanced Topics. (C) Staff.

This course is cross-listed with SWRK 528 (Advanced Topics) when the subject matter is related to African, African American, or other African Diaspora issues. Recent topics include, "Religion, Youth and Popular Culture" and "Anxious Identities."

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 533. (AFRC230, LALS530, PSCI534, SOCI530) Advanced Selected Topics. (M) Charles, Zuberi, Reed, Roberts.

This course is cross-listed when the subject matter is related to African, African American, or other African Diaspora issues. Courses recently offered are, "Political Culture and American Cities, Social Movements and Social Change, Critical Race Theory. See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

This course brings together the vantage points of urban political economy, history and urban anthropology. Readings and discussions will cross those literatures, folding in considerations of race, ethnicity and gender in the American city life, with a focus on the relation between culture and political economy. We will reconstruct the history of the the different tracks of urban studies in the U.S., beginning with its roots in sociology and anthropology in the Chicago School and in political science in reform-oriented studies of public administration. We will revisit the community power debate of the 1950s-1970s, which shook out significantly along disciplinary lines, and will examine the development of the urban political economy perspective in the 1980s and 1990s, as well as developments within U.S. urban anthropology since the 1960s. We will employ local case study materials, and at every point we will try to understand the intellectual trajectories of the urbanist discourses in relation to dynamics contemporaneously shaping urban politics and policy. Course requirements are seminar preparation which includes each student's leading discussion around specified reading assignments-- and a research paper, the topic of which must be approved by week 5.

SM 545. (EDUC543) Historically Black Colleges and Universities: Current and Historical Issues. (A) Gasman.

Students taking this course will learn about the historical context of HBCUs in educating African Americans, and how

their role has changed since the late 1800's. Students will also be expected to connect financial, societal, and/or economic connections between the role of HBCUs past and present. Specific contemporary challenges and success related to HBCUs that will be covered relate to control, enrollment, accreditation, funding, degree completion, and outreach/retention programming. Students will become familiar with HBCUs in their own right, as well as in comparison to other postsecondary institutions.

SM 547. (RELS501) Topics in Religion. (C) Butler.

Religions of the African Diaspora - Religion shapes and defines the lives of many persons in the Africans Diaspora. This course will explore both the historical and present day manifestations of religions practices by those in the African Diaspora, including Voodoo, Candomble, Obeah, Rastafari, African Initiated Churches, Pentecostalism, and Catholicism. Theoretical issues including sexuality, gender, and material culture will also be covered in the course.

SM 570. (AFST570, COML573, ENGL570, GSWS570) Topics in Afro-American Literature. (M) Beavers, Tillet.

This course treats some important aspect of African American literature and culture. Topics vary. Recent topics of the course have included: "Afro-American Women Writers," "Three Afro-American Writers: Ellison, Gaines and McPherson," "Afro-American Autobiography," and "Afro-American Literature: Black Music Among the Discourses." See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 587. (ANTH587) Race, Nation, Empire. (B) Thomas.

This graduate seminar examines the dynamic relationships among empires, nations and states; colonial and post-colonial policies; and anti-colonial strategies within a changing global context. Using the rubrics of anthropology, history, cultural studies, and social theory, we will explore the intimacies of subject formation within imperial contexts- past and present- especially in relation to ideas about race and belonging. We will focus on how belonging and participation have been defined in particular locales, as well as how these notions have been socialized through a variety of institutional contexts. Finally, we will consider the relationships between popular culture and state formation,

examining these as dialectical struggles for hegemony.

SM 590. (COML590, ENGL590) Recent issues in Critical Theory. (M) Jaji.

Topics vary. This course is a critical exploration of recent literary and cultural theory, usually focusing on one particular movement or school, such as phenomenology, psychoanalysis, the Frankfurt School, or deconstruction. See Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offering.

SM 591. (AFST560, FREN590) INTRO FRANCOPHON STUDIES. (M) An introduction to major literary movements and authors from five areas of Francophonie: the Maghreb, West Africa, Central Africa, the Caribbean and Quebec. SPRING 2016: This seminar will introduce key authors and issues in Francophone studies through texts that specifically focus on various experiences of war in colonial and postcolonial contexts. Significantly, the first piece of fiction by an African author may well be Bakary Diallo's *Force Bonte*, (1926), the autobiographical story of a WWI Senegalese *Tirailleur*, physically deformed by his war experience and trying to through his writing. While *Force Bont* is unique as an early piece, similar narratives have not ceased to proliferate in French and Francophone fiction. Indeed, writers from all over the former French Empire have repeatedly offered fictional accounts of colonial subjects' involvement in European wars, and especially WWII, with various degrees of ambivalence. As conflicts and genocides continue, the experience of war fukes a new wave of Francophone accounts at the turn of the twenty-first century. We will use an extensive diachronically and synchronically developed reading (and viewing) list of texts and films from Senegal, Congo, Rwanda, Guinea, Algeria, Martinique, Mauritius, and (Metropolitan) France from the 1920s to 2014.

Using this material as the basis for our exploration we will address several questions: What are some of the important tropes deployed in these narratives and how do they relate to broader issues concerning colonial and postcolonial violence? How do the wars of others (e.g. WWI and WWII) complicate the experience of war and questions of engagement and solidarity? How do such experiences lay the groundwork for other wars, of liberation, for example? Finally how does war impact the articulation of memory, survival and writing in colonial contexts, in

the postcolony, and in the European Metropole? Primary texts in French. Class discussion in French or English.

SM 594. (ENGL595) POST-COLONIALISM LITERATURE. Jaji.

Writing in 2001, literary critic Jahan Ramazani introduced his study *The Hybrid Muse* by noting that unlike authors of fiction, the achievements of postcolonial poets have been strangely neglected. In this course we ll consider whether and why that may be changing, focusing on Africana poets from the Caribbean and Africa. We will begin by considering Isidore Okpewho s influential study of oral poetry and myth in Africa, and then move chronologically through a set of weekly readings likely to include Nicolas Guillen (Cuba), Aime Cesaire (Martinique), Leopold Senghor (Senegal), Okpot Bitek (Uganda), Chris Okigbo (Nigeria), Kofi Awoonor (Ghana), Kamau Braithwaite (Trinidad), Derek Walcott (St. Lucia), David Dabydeen (Guyana/UK), Dionne Brand (Trinidad/Canada), Julia de Burgos (Puerto Rico), M. NourbeSe Philip (Tobago/Canada) and Chris Abani (Nigeria/US). Among the broad questions we ll consider are why women s voices appear to be underrepresented, how oral poetic traditions and translation inflect this body of work, the grounds of comparison across African and Caribbean spaces, and the particular contributions of poets who are also critics. The reading list may be adjusted to address interests of seminar members, and prospective students are welcome to send suggestions for particular authors, readings, or units to Tsitsi Jaji.

This is an introductory-level graduate class, open to advanced undergraduate majors by permission. No particular background knowledge is expected. Assignments will consist of weekly response papers, an in-class presentation, and a choice of a final conference-style paper (10-12pp) or syllabus.

SM 610. (HIST610) Topics in American History. (A) Savage.

This course is cross-listed with HIST 610 (Colloquium in American History) when the subject matter is related to African, African American, or other African Diaspora issues.

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 617. (SOCI617) Theories of Racial and Ethnic Differentiation. (M) Charles.

This course provides an overview of prominent theories of race and ethnicity,

and is concerned with 1) Understanding the nature and persistence of race and ethnicity as meaningful social groupings in contemporary American society, and 2) Explaining the social significance of these group identities--that is, how these groupings are related to social stratification, to socio-cultural relations, and to the political and economic dynamics in American society. Special attention will also be given to such topics as immigration and the intersection of gender, race, and class.

SM 630. (AFRC431, DEMG630, SOCI430, SOCI630) Advanced Special Topics in Sociology. (C)

Zuberi. This course is cross-listed with SOCI 630 (Advanced Topics in Sociology) when the subject matter is related to African American or other African Diaspora issues. A frequent topic of this course is "Race, Colonialism and Methods".

RACE, COLONIALISM AND METHODS. Critical perspectives in social sciences have been very critical of the empirical assumptions of social science. This course will examine the scientific claims of social science methodology by extending the critical perspective to biases that may underlie research methods. Both qualitative and quantitative methods will be covered. This class will examine the impact of ideas regarding the notion of the "other" on the development of research methods. We will discuss good and bad practices within the context of the historical developments of the methods.

SM 638. (AFRC437, PSCI437, PSCI638) Race and Criminal Justice. (M) Gottschalk.

This advanced seminar analyzes the connection between race, crime, punishment, and politics in the United States. The primary focus is on the role of race in explaining why the country's prison population increased six-fold since the early 1970s and why the United States today has the highest incarceration rate in the world. Topics to be covered include: the early history of race in the development of the criminal justice system, including an examination of lynchings and the convict-leasing system; the relationship between the crime rate, patterns of offending and arrests, and the incarceration rate; public opinion and law-and-order" politics; U.S. penal policies compared with other industrialized countries; capital punishment; the growth of the prison-industrial complex; the "war on drugs"; the courts, prisoners' rights, and political prisoners; felon disenfranchisement,

elections, and democracy; and the future of penal reform. This seminar is designed for advanced undergraduates, as well as graduate students. The readings and assignments will be adjusted accordingly for graduate students. The class will likely take field trips to a maximum-security jail in Philadelphia and to a state prison in the Philadelphia suburbs.

SM 640. (ANTH640, COMM740, MUSC705, RELS617) Proseminar in Africana Studies. (E) Beavers, Butler, Charles, Rommen, Savage, Thomas, Williams, Zuberi.

This course focuses on the historical and cultural relationship between Africans and their descendants abroad.

SM 641. (HIST641) Topics in African American History. (B) Williams, Savage.

Topics vary. See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 650. (AFST650, HIST650) Topics in African History. Babou, Cassanelli.

Reading and discussion course on selected topics in African history.

SM 670. (ARTH501, GSW670, HIST670) Topics in Trans Regional History. (C) Brown.

Reading and discussion course on selected topics in Transregional History See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

Comparative Slavery and Emancipation: What do historians gain by approaching the past with an awareness of the body as a material and historically contingent entity? In this course we consider several different ways of imagining historical bodies and the body in history. Our readings will explore how events and new social, racial, economic and political formations influence how contemporaries imagined and described bodies and their capacities. We will also explore whether the body itself might be a dynamic source of historical change. Among the topics we will discuss are: medical theories about bodies, epidemics and their impact; sensory capacities; capacities for physical labor; cultures of violence; reproductive capacities and politics; coerced migration; fashion, beauty, and grace; and the state's interest in mobilizing bodies to serve imperial, economic, and military agendas. This course complements but does not duplicate "Race and Gender in Comparative

Perspective" offered in Spring 2012. It is an intensive readings course with written assignments: short papers throughout the semester and a synthetic final paper.

SM 705. (AFST705, ANTH705, FOLK715, MUSC705) Seminar in Ethnomusicology. (A) Muller, Rommen.

This course is cross-listed with MUSC 705 (Seminar in Ethnomusicology) when the subject matter is related to African, African American, or other African Diaspora issues. Recent courses offered include "Reading Women in Jazz," "Popular Music and the Ethics of Style in the Caribbean," "Music and Tourism in the Caribbean," and "Imagining Africa Musically." See the Africana Studies Department's course list at <https://africana.sas.upenn.edu> for a description of the current offering.

SM 706. Introduction to Africa and African Diaspora Thought. (C) Staff.

This course examines the processes by which African peoples have established epistemological, cosmological, and religious systems both prior to and after the institution of Western slavery.

SM 708. (COML708, ENGL775, FREN700) Cultural and Literary Theory of Africa and the African Diaspora. (C) Staff.

This course introduces students to the theoretical strategies underlying the construction of coherent communities and systems of representation and how those strategies influence the uses of expressive culture over time.

Topics vary. See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 710. (HIST750, SOCI702) Political Economy and Social History of Africa and the African Diaspora. (E) Hanchard, Zuberi.

This course provides the opportunity for students to investigate the relationship between the emergence of African peoples as historical subjects and their location within specific geopolitical and economic circumstances.

SPRING 2017: This jointly taught course is designed to introduce students to scholarship on the politics of Africa and the African diaspora in the period after World War II. The major themes of the 19th and 20th century congeal during this period: colonialism and anti-colonial movements toward national liberation, anti-apartheid and civil rights movements ranging from black movements in Brazil, Jamaica and

the United States to South Africa, Britain and France. Readings and lectures will cover the politics of several African nation-states and diaspora populations, with an emphasis on the continuities and tensions between territorial nationalist movements with internal ethno-national tensions (African politics), to civil rights movements within plural societies where black populations have been characterized as minority populations. Students will read across several disciplines: history, sociology, political science, comparative literature, cultural studies, as well as Africana Studies, in the exploration of concepts and phenomena of sovereignty and citizenship, identity and identification, networks across nation-state and regional boundaries linking diverse African-descended populations, all within the context of the nation-state system.

SM 712. (EDUC712, URBS713) Comprehensive School Reform as Applied Public Policy. (C) Hershberg.

This course examines how K-12 education policy is designed and implemented in the United States. It uses a systems analysis as the framework for looking at who makes what kinds of demands on the education policy system, how these demands are placed on the policy agenda, the decision making process, and resulting education policies and policy outcomes. The course pays particular attention to the roles of federal, state and local governments in education policy, and the impact of our intergovernmental system on the design and implementation of policy. Students will also examine major education policies and debate key education policy issues that arise at each level of government.

SM 770. (COML773, ENGL770) Afro-American American Literature. (M) Staff.

An advanced seminar in African-American literature and culture.

SM 771. (FOLK770, MUSC770) Seminar in Afro-American Music. (M) Ramsey.

This seminar treats selected aspects of the history, aesthetics, criticism and historiography of African-American music.

Topics vary. See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

SM 777. (SOCI777) Special Topics. (M) Zuberi, Bonilla-Silva.

This course is cross-listed with SOCI 777 (Special Topics) when the subject matter is

related to African American or other African Diaspora issues.

Topics vary: See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of current offerings.

SM 798. (SWRK798) Advanced Topics. (M)

This course is cross-listed with SWRK 798 (Advanced Topics) when the subject matter is related to African, African American, or other African Diaspora issues. Recent topics are "Difference" and Social Policy," and "Critical Race Theory."

See the Africana Studies Department's website at <https://africana.sas.upenn.edu> for a description of the current offerings.

African Language Courses

170. (AFST170, AFST517)

Elementary Yoruba I. (A) Awoyale. Offered through the Penn Language Center.

This Elementary Yoruba I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Nigeria and the diaspora/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Yoruba. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content.

Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high novice level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Yoruba II course materials.

171. (AFRC517, AFST171, AFST518) Elementary Yoruba II. (B) Awoyale. Prerequisite(s): Completion of Elementary Yoruba I, or permission of instructor. Offered through the Penn Language Center.

The main objective of this course is to further sharpen the Yoruba linguistic knowledge that the student acquired in level I. By the end of the course, the student should be able to (1) read, write, and understand simple to moderately complex sentences in Yoruba; and, (2) advance in the knowledge of the Yoruba culture.

180. (AFST180, AFST580)

Elementary Swahili I. (A) Mshomba. Offered through the Penn Language Center.

The elementary Swahili course can be taken to fulfill a language requirement, or for linguistic preparation to do research on East Africa/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Swahili. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content.

Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high level proficiency skills that the students acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Swahili II course materials.

181. (AFST181, AFST581)

Elementary Swahili II. (B) Bolger. Prerequisite(s): Completion of Elementary Swahili I, or permission of instructor. Offered through the Penn Language Center.

This course continues to introduce basic grammar, vocabulary, and the reading and writing of Swahili to new speakers. During this term, folktales, other texts, and film selections are used to help introduce important aspects of Swahili culture and the use of the language in wide areas of Africa.

240. (AFRC540, AFST240, AFST540, NELC481) Elementary Amharic I. (A) Hailu. Offered through the Penn Language Center.

The Elementary Amharic I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Ethiopia/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Amharic. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content.

Students will acquire the speaking, listening, reading, and writing skills at the mid-high novice level, based on the ACTFL scale. The mid-high novice level proficiency skills that the students will acquire constitute threshold capabilities of the second semester range of proficiency to prepare students for Elementary Amharic II course materials.

241. (AFRC541, AFST241, AFST541, NELC482) Elementary Amharic II. (B)

Hailu. Prerequisite(s): Completion of Elementary Amharic I, or permission of the instructor. Offered through the Penn Language Center.

Continuation of Elementary Amharic I.

242. (AFRC543, AFST242, AFST543, NELC483) Intermediate Amharic I. (A)

Hailu. Offered through the Penn Language Center.

243. (AFRC544, AFST243, AFST544, NELC484) Intermediate Amharic II. (B)

Hailu. Offered through the Penn Language Center.

247. (AFRC548, AFST247, AFST547) Advanced Amharic. (C) Zemichael.

Offered through the Penn Language Center.

An advanced Amharic course that will further sharpen the student's knowledge of the Amharic language and the culture of the Amharas. The learner's communicative skills will be further developed through listening, speaking, reading, and writing. There will also be discussions on cultural and political issues.

270. (AFST270, AFST529)

Intermediate Yoruba I. (A) Awoyale. Offered through the Penn Language Center.

271. (AFRC534, AFST271, AFST532) Intermediate Yoruba II. (B) Awoyale.

Offered through the Penn Language Center.

280. (AFST280, AFST582)

Intermediate Swahili I. (A) Mshomba. Offered through the Penn Language Center.

282. (AFST281, AFST583)

Intermediate Swahili II. (B) Mshomba. Prerequisite(s): Intermediate Swahili I, or permission of Instructor. Offered through the Penn Language Center.

284. (AFST284, AFST584) Advanced Swahili I. (C) Mshomba. Prerequisite(s): AFST 280, LING 280, AFRC280 or permission of Instructor. Offered through the Penn Language Center.

This is an advanced Kiswahili course which will engage learners in extended spoken and written discourse. Advanced learners of Kiswahili will listen to, read about, write, and speak on authentic video materials, contemporary novels, and newspapers. They will also participate in various discussions on cultural and political issues.

285. (AFST285, AFST586) Advanced Swahili II. (B) Mshomba. Offered through the Penn Language Center.

491. (AFST491) African Language Tutorial - Elementary II. (C) Staff. Prerequisite(s): Permission of Penn Language Center. Offered through Penn Language Center.

493. (AFST493) African Language Tutorial - Intermediate II. (B) Staff. Prerequisite(s): Permission of Penn Language Center. Continuation of AFST 492

495. (AFST495) African Language Tutor: Adv II. (B) Staff. Prerequisite(s): Permission of Penn Language Center. Continuation of AFST 494.

497. (AFST497) Language & Culture II. (B) Staff. Prerequisite(s): Permission of Penn Language Center. Continuation of AFST 496

517. (AFRC171, AFST171, AFST518) Elementary Yoruba II. (B) Awoyle. Offered through Penn Language Center.

The main objective of this course is to further sharpen the Yoruba linguistic knowledge that the student acquired in level I. By the end of the course, the student should be able to (1) read, write, and understand simple to moderately complex sentences in Yoruba; and (2) advance in the knowledge of the Yoruba culture.

534. (AFRC271, AFST271, AFST532) Intermediate Yoruba II. (B) Awoyale. Offered through Penn Language Center.

540. (AFRC240, AFST240, AFST540, NELC481) Elementary Amharic I. (A) Hailu. Offered through the Penn Language Center.

An introductory course for students with no previous knowledge of Amharic. Amharic belongs to the southern branch of Hemitto-Semitic languages which is also referred to as "Afrasian." Amharic is the official language of Ethiopia and is spoken by 14

million native Amharas and by approximately 19 million of the other ethnic groups in Ethiopia. The goals of this course are to introduce students to the culture, customs, and traditions of the Amharas. Students will develop communicative skills through listening, speaking, reading, and writing.

541. (AFRC241, AFST241, AFST541, NELC482) Elementary Amharic II. (B) Hailu. Offered through the Penn Language Center.

Continuation of Elementary Amharic I.

543. (AFRC242, AFST242, AFST543, NELC483) Intermediate Amharic I. (A) Hailu.

Offered through the Penn Language Center

544. (AFRC243, AFST243, AFST544, NELC484) Intermediate Amharic II. (B) Hailu.

Offered through the Penn Language Center

ANATOMY
(MD) {ANAT}

505. Structural Adaptations to

Function. (A) Dr Orsini and Staff.

Prerequisite(s): Permission of instructor in
Veterinary School.

Veterinary gross anatomy course. The
basic principles of mammalian and avian

anatomy are studied in a veterinary context.
The laboratory periods are given to the
dissection of the dog, cat, horse, various
ruminants, various laboratory animals,
chicken and fish.

**ANCIENT HISTORY
(AS) {ANCH}**

L/R 025. (HIST024, NELC101) Ancient Middle Eastern History and Civilization. (A) History & Tradition Sector. All classes. Staff.

A cultural history of Middle Eastern civilization from the invention of writing to the rise of Islam.

L/R 026. (CLST026, HIST026) Ancient Greece. (A) History & Tradition Sector. All classes. Jeremy McInerney.

The Greeks enjoy a special place in the construction of western culture and identity, and yet many of us have only the vaguest notion of what their culture was like. A few Greek myths at bedtime when we are kids, maybe a Greek tragedy like Sophokles' Oidipous when we are at school: these are often the only contact we have with the world of the ancient Mediterranean. The story of the Greeks, however, deserves a wider audience, because so much of what we esteem in our own culture derives from them: democracy, epic poetry, lyric poetry, tragedy, history writing, philosophy, aesthetic taste, all of these and many other features of cultural life enter the West from Greece. The oracle of Apollo at Delphi had inscribed over the temple, "Know Thyself." For us, that also means knowing the Greeks. We will cover the period from the Late Bronze Age, c. 1500 BC, down to the time of Philip of Macedon, c. 350 BC, concentrating on the two hundred year interval from 600-400 BC.

L/R 027. (CLST027, HIST027) Ancient Rome. (B) History & Tradition Sector. All classes. Cam Grey.

The Roman Empire was one of the few great world states-one that unified a large area around the Mediterranean Sea-an area never subsequently united as part of a single state. Whereas the great achievements of the Greeks were in the realm of ideas and concepts (democracy, philosophy, art, literature, drama) those of the Romans tended to be in the pragmatic spheres of ruling and controlling subject peoples and integrating them under the aegis of an imperial state. Conquest, warfare, administration, and law making were the great successes of the Roman state. We will look at this process from its inception and trace the formation of Rome's Mediterranean empire over the last three centuries BC; we shall then consider the social, economic and political consequences of this great achievement, especially the great political transition from

the Republic (rule by the Senate) to the Principate (rule by emperors). We shall also consider limitations to Roman power and various types of challenges, military, cultural, and religious, to the hegemony of the Roman state. Finally, we shall try to understand the process of the development of a distinctive Roman culture from the emergence new forms of literature, like satire, to the gladiatorial arena as typical elements that contributed to a Roman social order.

046. (NELC046, RELS014) Myths and Religions of the Ancient World. (B) History & Tradition Sector. All classes. Frame.

This course will survey the religions of the ancient Middle East, situating each in its historical and socio-cultural context and focusing on the key issues of concern to humanity: creation, birth, the place of humans in the order of the universe, death, and destruction. The course will cover not only the better-known cultures from the area, such as Egypt and Mesopotamia, but also some lesser-known traditions, such as those of the Hurrians, or of the ancient Mediterranean town of Ugarit. Religion will not be viewed merely as a separate, sealed-off element of the ancient societies, but rather as an element in various cultural contexts, for example, the relationship between religion and magic and the role of religion in politics will be recurring topics in the survey. Background readings for the lectures will be drawn not only from the modern scholarly literature, but also from the words of the ancients themselves in the form of their myths, rituals, and liturgies.

SM 115. (CLST115) Ancient Rome and America. Grey.

For centuries the cultures of ancient Greece and Rome have been considered the "foundation" of Western society, and the influence of Classical Antiquities continues to be felt in central areas of modern life, from art and literature to politics and science. Yet in recent years the Greco-Roman Classics have become the center of a vibrant debate about our very definition of "western civilization" and the values and attitudes that this concept traditionally entails. This course will introduce students to the amazingly rich and dynamic cultures of Classical Antiquity, allowing them to experience many of the most exciting aspects of ancient culture, and to evaluate for themselves the legacy of the classical past in the West. The course will involve, among other things, the study of various aspects of Greco-Roman history, literature, art, philosophy, and politics.

116. PERICLEAN ATHENS.

SM 117. (CLST117) PERICLEAN ATHENS.

This class is devoted to the culture and history of Athens in the 5th century BC, the golden age of Greek culture. We will examine such topics as the growth of democracy, Athenian religion and the architectural embellishment of the Acropolis and the Agora. We will look at the development of Athenian drama and explore the relationship between Athenian democracy and naval power.

119. (CLST118) AUGUSTAN CULTURAL REVOL. (C)

146. (CLST146) Ancient Mediterranean Empires. (A) Wilker.

What constituted an empire in antiquity and how was imperialism legitimized? Which measures were used to maintain and organize imperial power? How did foreign rule affect the daily life of people all over the Mediterranean? In this course we will discuss and compare ancient empires from Achaemenid Persia to Alexander the Great and the Hellenistic kingdoms of his successors to the emergence of Rome as one of the most successful and influential empires in world history. Topics that will be discussed include ancient ideas and concepts of imperial rule, patterns of political, economic and cultural power and their interrelations as well as imperial crises and local resistance. All texts will be discussed in translation. There are no prerequisites, although it would be useful to have some background in ancient history.

209. (CLST209) Structures of the Roman Empire. (M) Grey.

"They create a desert and call it peace," wrote Tacitus in describing the response of the conquered to Rome's power, but the Roman Peace also brought with it other, less dramatic changes. In this class we will break the Roman Empire down into a series of vignettes, using literature and archaeology to supply us with the material for a fresh look at Roman society. Our aim is to uncover the complexity of Roman society, and to acknowledge the multiple voices that together made up the ancient Mediterranean world. We will focus upon key structural aspects of Roman society and culture, but explore them in new ways, using texts that highlight dissent, conflict and tension as they indicate cohesion and Rome's hegemony over the Mediterranean in antiquity. Texts will be read in translation. No prerequisites, although students are

encouraged to take this course after taking ANCH 027/HIST 027.

SM 220. (NELC284) Near East in Hellenistic and Roman Times. (M) Wilker.

In this course, we will study the history of the Hellenistic and Roman period from a Near Eastern perspective. From the conquests of Alexander the Great to the end of Roman rule in late antiquity, this region was the scene of conflicts, but also of peaceful and fruitful interactions between Greeks, Romans, Egyptians, Jews, Syrians, Arabs and many other societies. What was the impact of Greek and Roman rule and how did the inhabitants of the region react to these fundamental changes? On the other hand, how did they influence the culture and worldview of their conquerors? We will use historical texts, documents and archaeological evidence to discuss the political, cultural and religious encounters that made the Near East a key region of Greco-Roman history. All texts will be discussed in translation. No prerequisites, although it would be useful to have taken ANCH 026 and/or ANCH 027.

SM 257. RELIGION & THE POLIS.

SM 301. (CLST300) Problems in Greek and Roman History. (M) Grey.

The neat, comforting narratives that we construct of the histories of ancient Greece and Rome cover up a collection of controversies and debates that continue to rage in contemporary scholarship. Can we use the Homeric epics as sources of early Greek history? Who was responsible for the Peloponnesian War? How can we best explain Rome's acquisition of empire? How new was the political revolution of Augustus? What were the main reasons for the rise of Christianity? In this course, we explore these and other controversies, focusing on both modern scholarship and the ancient sources. All texts will be discussed in translation. No prior knowledge of Ancient History is required, although it would be useful to have taken ANCH 026 and/or ANCH 027.

302. Cleopatra. Julia Wilker.

Cleopatra VII (70/69-30 BCE) is one of the most famous women in world history. She has been remembered, admired, and reproached as a power-hungry Hellenistic queen, as the last pharaoh of Egypt, as a self-confident female ruler, and as the vicious seductress of Julius Caesar and Mark Antony. Her supposedly extravagant lifestyle, her political schemes, but also her integrity in choosing suicide over submission have inspired poets, artists, and

historians from her own time to our modern world. In this seminar, we will take a closer look at some of the common perceptions and stereotypes that have shaped the image of Cleopatra for more than 2000 years. The main focus, however, will be on the historical queen, her biography, and the political and cultural contexts of her life. We will use ancient literary texts, papyri, inscriptions, coins, and archaeological evidence to analyze Cleopatra's rise to power, how she presented herself to her subjects and how she was perceived by others, as well as her role in the tumultuous events that led to the end of the Hellenistic period and the rise of imperial Rome under the rule of Augustus.

SM 305. (JWST305) Jewish Diaspora in the Roman Empire. Julia Wilker.

Under the Roman Empire, Jewish communities developed and flourished especially in the cities of the Eastern Mediterranean, in Egypt, Syria, Asia Minor, Greece, Northern Africa, and Italy proper. In many of these cities, the Jews formed a considerable part of the population; they influenced the cultural, social, and political communal life and developed an identity that was distinctively different from that in Judea. In this seminar, we will trace Jewish life in the Diaspora under Roman rule. How did Jews and non-Jews interact? What was the legal status of Jewish communities under the Roman Empire? What caused conflicts and how were they solved? What can the history of Jewish Diaspora communities tell us about minorities in the Roman Empire in general? We will use literary texts, inscriptions, papyri, and archaeological material to answer these questions and many more.

307. MARGINALITY.

Conventional histories of Rome tend to focus on the actions of the named individuals who wrote the texts that have come down to us, or are the subjects of those texts. But these individuals constituted only the tiniest fraction of the population of the Roman world. In this course, we will explore the lived experience of the other 95%: peasants and the poor; prostitutes, pimps, and criminals; bandits and pirates; magicians and soothsayers. Drawing on the scattered and problematic textual sources, archaeological evidence and comparative perspectives from better-documented contexts, we will examine the various roles that these individuals played in Roman society, the collection of often discordant or dissonant attitudes of their wealthier and more powerful contemporaries, and the

challenges and opportunities that attend the social history of marginality in the ancient world. No prior knowledge of Roman History is required, although it would be useful to have taken ANCH 027, the introductory survey course. Texts will be discussed in translation.

SM 311. (CLST311) Disasters in the Ancient World. (M) Grey.

Natural disasters occupy a powerful place in our imagination. Stories of floods, plagues, earthquakes and storms excite and horrify us, and communities mobilize their resources quickly in response to these events. In the ancient Mediterranean world, natural disasters could take on potent meaning, indicating the anger or disfavor of the gods, acting as warnings against certain courses of action, or confirmations of individuals' fears or suspicions about the world in which they lived. In this course, we explore the evidence for some disasters in the ancient Mediterranean world, the ways in which contemporaries reacted to those disasters and interpreted their causes. This project is, of necessity, multidisciplinary, involving textual, archaeological, geological, and comparative materials and drawing on methodologies from history, political and archaeological science, and the emerging field of disaster studies. In the process, we will gain an appreciation of the social structures of communities in the period, the thought-world in which they operated, and the challenges and opportunities that attend a project of this sort. No prior knowledge of Ancient History is required, although it would be useful to have taken an introductory survey course. Texts will be discussed in translation.

323. (CLST323, HIST334) Greek World After Alexander the Great. (M) Wilker.

This class is designed as a detailed investigation of the world created by Alexander the Great. We will cover the three hundred year period known as the Hellenistic Age from the career of Alexander the Great (354-323 BC) until the defeat of Antony and Cleopatra at the Battle of Actium (31 BC). This was a period during which the world of the Greeks underwent extraordinary and far-reaching changes, as Greek culture was established as far afield as northwestern India, central Asia and Egypt. In the same period kingdoms controlled by Alexander's successors used Greek culture to define their rule, establishing a Greek culture of the elite in regions which previously had been dominated by the

Persians. As Greek and non-Greek worlds collided, a new interpretation of Greek culture emerged, giving rise, among other things, to universities and professional schools, state subsidized health care, triumphalist architecture, the heroization of the noble savage, coinage with royal portraits, the deification of men and a multitude of other social, artistic and political forms familiar to us. It was an age of radical change, dislocation, as Greek populations colonized regions previously unknown to them.

SM 330. (CLST332) History of Macedonia. (M)

In this course, we will study the rise and development of Macedonia from a tiny kingdom on the northern fringes of the Greek world to one of the major powers of the region and beyond. Regarded by the Greeks as an at least semi-barbarian culture on the periphery, Macedonia became the dominant power in the Greek world during the fourth century BC and its king Alexander the Great set out to conquer the world. After his death, Macedonia was one of the Hellenistic kingdoms competing for power and influence in the Mediterranean until it finally came under Roman control. Topics that will be discussed include questions of ethnicity and identity, Macedonian kingship, culture and society (including the role of women) and the role of Macedonian traditions in the Hellenistic era in general. Special emphasis will be laid on the discussion of ancient texts and documents as well as archaeological evidence.

334. (CLST334) JERUSALEM IN ANTIQUITY. (M)

357. (CLST357, RELS257) Religion and the Polis. McNerney.

SM 384. (NELC384) The Hellenistic and Roman Near East. Julia Wilker.

In this course we will study the history of the Hellenistic and Roman period from a Near Eastern perspective. From the conquests of Alexander the Great to the end of Roman rule in late antiquity, this region was the scene of conflicts, but also of peaceful and fruitful interactions between Greeks, Romans, Egyptians, Jews, Syrians, Arabs and many other societies. What was the impact of Greek and Roman rule and how did the peoples of the region react to these fundamental changes? On the other hand, how did they influence the culture and worldview of their conquerors? We will use historical texts, documents and archaeological evidence to discuss these political, cultural and religious encounters that made the Near East to a key region of

Greco-Roman history. All texts will be discussed in translation. No prerequisites, although it would be useful to have some background in Hellenistic and/or Roman history.

399. Independent Study. (C)

This course is taken by students doing independent work with a faculty advisor, such as students approved to work on a senior research paper in pursuit of honors in the major.

499. Independent Study. (C)

SM 500. (LATN600) HISTORIA AGUSTA. (M)

SM 501. Comparative Law and Legal Systems of Late Antiquity: Islamic and Roman Law. Cam Grey.

This seminar explores the possibilities for comparative study of Late Antique law and legal systems by focusing on Roman and Islamic law, with reference also to neighboring legal cultures. There is no shortage of scholarship on the legal systems of the Islamic and Roman worlds. Fictitious legal discussions, juristic judgments and edicts issued directly or indirectly by rulers have all been scrutinized for the light they shed upon the legal thinking that characterized these two societies. Equally, these texts are a rich and intriguing source of information for social, cultural, and economic historians. They illuminate social customs, economic and social divisions within society, and attitudes towards those customs and divisions. They reveal ongoing and periodic threats to the smooth functioning of society, and measures taken to address those threats. In this course, we take a broadly comparative approach to the problem of reconstructing both the legal and the societal systems of the Islamic and Roman worlds. We explore differences and similarities in the nature of the sources and methodologies that are central to the modern study of Roman and Islamic law, consider how those similarities and differences affect scholars ability to shed light upon political, religious, and employ documentary and literary evidence to reconstruct the societies in question.

SM 534. Problems in Roman Hist. (M) Jeremy McNerney.

SM 535. (AAMW534, HIST535, LATN600) Problems in Greek and Roman History: Roman Empire. (C) Cam Grey.

This course will explore some of the pressing and problematic scholarly debates

in the historiography of the Roman imperial period, from the accession of the first emperor, Augustus, to the reign of Justinian (ruled 527-363 CE). Students will gain a familiarity with both the broad historical narratives of the Roman empire and the details of specific scholarly disagreements in the intellectual, political, socio-economic, and cultural history of the period.

542. (AAMW543, NELC242, NELC542) Empires Anc Near East.

545. (AAMW545, CLST545) Spatial Analysis of the Past. (M) Peter Cobb.

Archaeological fieldwork experience and basic digital skills preferred.

Undergraduates can register with permission of the instructor.

Humans continuously move through, interact with, and modify their spaces, leaving a palimpsest of human activity all around us. The ability for digital methods to deal with larger datasets, at higher accuracies, and at multiple scales, lends itself particularly well to the study of diachronic human-space interaction. In this class, we will examine space at a range of scales from landscapes, to urban settings, to archaeological contexts and architecture. We digitally represent space using a variety of 3d and 2d data types, from models of land surfaces and buildings, to multispectral satellite imagery and urban plans. We will first gain experience creating, gathering, and manipulating spatial datasets in preparation for analysis. We will next practice a variety of analytical techniques on these data and examine case studies that have used spatial methods to draw important archaeological and historical conclusions. Tools covered in this class will include geographical information systems (GIS), global navigation satellite systems (GNSS), raster image processing, photogrammetry, and 3d spatial modeling softwares. Finally, we will gain experience with the visualization of our data and results, and the presentation of those results through open online publication.

SM 601. (AAMW601, CLST601) Archaeology and Greek History. (C) Staff.

SM 602. Athenian Economy. (M)

This course will examine the material and social culture of classical Athens. Through a close reading of original sources (primarily court presentation and comic productions) and through the evaluation of modern studies, we will seek to understand the societal, familial, economic, religious and sexual dimensions of the Athenian life,

and to evaluate the alleged dictatorial dominance of this society by the small minority of male "citizens." The class will deal with such topics as the legal, social and financial position of wealthy slaves and business women; the clandestine economy of tax evasion and bank fraud; the political and economic content of male and female prostitution.

The entire seminar will study certain core materials, and individual students will report on selected subjects. Admission is open to those with a reading knowledge of ancient Greek and/or some expertise in social science discipline broadly-defined (such as history, gender studies, economics, anthropology or law).

SM 604. Provincial Perspectives. (M) Wilker.

Most of the primary sources available to us reflect the ideology, concepts and realities of Hellenistic and Roman imperial rule through the lenses of ruling power and its elites. There are, however, a number of sources that provide insights into how provincials and subjects saw and depicted themselves, the imperial power and their interaction. Historiographical and auto-ethnographic works, orations, philosophical and religious texts reflect different attitudes towards the ruling imperial powers ranging from open hostility and frustrated acceptance to praise and even identification. In this seminar we will focus on how ethnic, religious, cultural and/or regional identities were developed, maintained, adapted and interpreted within and in reaction to the imperial frameworks of the Hellenistic and Roman periods. Texts to be read and discussed include some "canonical" authors such as Polybius and Flavius Josephus as well as some lesser-known works and fragments from authors like Berossus, Manetho, Nicolaus of Damascus, and Poseidonius and will be complemented by documentary, epigraphic and archaeological evidence. Special

emphasis will also be laid on modern scholarly approaches, including concepts of identity, hybridization and cultural change and the dynamics of empire in general.

SM 605. REVOLTS IN THE ROMAN EMP. Julia Wilker. Corequisite(s): REVOLTS IN THE ROMAN EMPIRE.

Provincial revolts were a common feature in the Roman Empire. Although many of these revolts have attracted much interest in modern scholarship, they are often analyzed as individual events and/or in their particular regional context alone. In this seminar, we will focus on the first and second century CE and discuss provincial revolts and resistance in Judaea, Egypt, Africa, Germany, Britain, Pannonia, Gaul and many more. Yet the aim of this course is not to come up with (another) narrative for each of these revolts, but a comparative analysis of their causes, the organization and goals of rebel movements, the imperial reaction, and the following reintegration process into the empire.

SM 611. (AAMW611, CLST611, GREK611) Greek Epigraphy. (M) Staff.

An introduction to the principles and practices of Greek Epigraphy. Study of selected Greek inscriptions.

SM 616. (CLST616) Ancient Economies. (C) Grey.

Scholars have long debated the nature of the ancient economy, the terms in which it can best be approached, and the decision-making processes that underpinned economic behavior in antiquity. In particular, controversy has surrounded the extent to which the economies of Greco-Roman antiquity can be modeled using contemporary tools of analysis. In recent scholarship, many of the tenets laid down by Moses Finley in his *The Ancient Economy* have been re-evaluated, with the result that the field is currently in a state of

intellectual ferment. It is the purpose of this course to explore the terms in which contemporary debates over ancient economic systems are formulated, with reference to a variety of societies and periods, from the palace economies of the Mycenaean period to the system of taxation introduced in the early fourth century by the emperor Diocletian and his colleagues in the Tetrarchy.

645. (ANTH645) Economics and Ancient Trade. (M) Staff.

This course will examine theoretical and empirical frameworks for pre-modern forms of exchange. We will focus on substantist and formalist economic theories and will consider the archaeological evidence for such phenomena as barter, gift exchange, administered economies, markets, local exchange, and long distance overland and maritime trade. Our goal is to develop mid-range models for reconstructing ancient economies. The course will emphasize but not be limited to complex societies of the New and Old World.

SM 702. (AAMW702, CLST702) Greek Sanctuaries. (M) McNerney.

Sanctuaries remain an important focal point for the study of Greek religion. Both as sites for worship, dedication, oracular activity and other cult activity and as sites for the mediation of elite and state competition sanctuaries are, along with the polis, the most essential structuring institutions of Greek life. This seminar takes a selection of larger and smaller extra-urban sanctuaries and examines their growth, articulation and function.

SM 721. (AAMW721, ARTH721) Seminar in Greek Architecture. (M) Haselberger.

Topic varies.

999. Independent Study. (C)

ANTHROPOLOGY (AS) {ANTH}

L/R 001. Introduction to Archaeology. (C) History & Tradition Sector. All classes. Staff.

An introduction to the history, concepts, and methods of the anthropological study of pre-historic and historic peoples using archaeological illustrations to indicate the relationship of archaeological interpretations with cultural and physical anthropology.

L/R 002. INTRODUCTION TO CULTURAL ANTHROPOLOGY. (C) Society Sector. All classes. Staff.

An introduction to the study of culture and human institutions, how they change, and their role in both literate and nonliterate societies.

L/R 003. Introduction to Human Evolution. (C) Living World Sector. All classes. Staff.

How did humans evolve? When did humans start to walk on two legs? How are humans related to non-human primates? This course focuses on the scientific study of human evolution describing the emergence, development, and diversification of our species, *Homo sapiens*. First we cover the fundamental principles of evolutionary theory and some of the basics of genetics and heredity as they relate to human morphological, physiological, and genetic variation. We then examine what studies of nonhuman primates (monkeys and apes) can reveal about our own evolutionary past, reviewing the behavioral and ecological diversity seen among living primates. We conclude the course examining the "hard" evidence of human evolution - the fossil and material culture record of human history from our earliest primate ancestors to the emergence of modern *Homo sapiens*. You will also have the opportunity, during recitations, to conduct hands-on exercises collecting and analyzing behavioral, morphological, and genetic data on both humans and nonhuman primates and working with the Department of Anthropology's extensive collection of fossil casts.

L/R 004. The Modern World and Its Cultural Background. (B) Humanities & Social Science Sector. Class of 2010 & beyond. Urban.

An introduction to the diversity of cultures in the world. This course is divided into two parts. The first briefly examines different models of understanding human

diversity: ethnicities, religions, languages, political forms, economic structures, cultures, and "civilizations". Students will learn to think about the world as an interconnected whole, and know the significance of culture on a global scale. The second part is an introduction to area studies, in which we undertake a survey of the different regions of the world. We conduct the survey paying attention to the different aspects of human diversities, which we examine in the first part of this course. Students will acquire a greater appreciation and understanding of cultural differences in the more comprehensive social context.

L/R 005. Great Transformations. (C) History & Tradition Sector. All classes. Ristvet.

This course explores the history and archaeology of the last 20,000 years from the development of agriculture to the industrial revolution. Why did people across the world abandon foraging for farming? How and why did cities and states develop? Why did societies succeed or fail? How have humans transformed themselves and the natural world, including the landscape and the climate? We will explore the methods that archaeologists use to consider these questions and analyze evidence for social and economic change from the Middle East, the Americas, Asia, Africa, Australia and Europe. In addition, students will have a chance to conduct hands-on exercises with artifacts from the Penn Museum and an opportunity to do some experimental archaeology during recitations.

L/R 012. (HIST012, SOCI012) Globalization And Its Historical Significance. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Spooner.

This course describes and analyses the current state of globalization and sets it in historical perspective. It applies the concepts and methods of anthropology, history, political economy and sociology to the analysis and interpretation of what is actually happening in the course of the semester that relates to the progress of globalization. We focus on a series of questions not only about what is happening but about the growing awareness of it and the consequences of the increasing awareness. In answering these questions we distinguish between active campaigns to cover the world (e.g. Christian and Muslim proselytism, free-trade agreements, democratization) and the unplanned diffusion of new ways of organizing trade, capital flows, tourism and remote

interaction via the Internet. The body of the course deals with particular dimensions of globalization, reviewing both the early and recent history of each. The overall approach is historical and comparative, setting globalization on the larger stage of the economic, political and cultural development of various parts of the modern world.

The course is taught collaboratively by an anthropologist, an historian, and a sociologist, offering the opportunity to compare and contrast distinct disciplinary approaches. It seeks to develop a general social-science-based theoretical understanding of the various historical dimensions of globalization: economic, political, social and cultural.

022. (AFRC050, AFST050, FOLK022, MUSC050) World Music and Cultures. (A) Arts & Letters Sector. All Classes. Muller, Rommen, Sykes. Open to all students.

This course examines how we as consumers in the "Western" world engage with musical difference largely through the products of the global entertainment industry. We examine music cultures in contact in a variety of ways-- particularly as traditions in transformation. Students gain an understanding of traditional music as live, meaningful person-to-person music making, by examining the music in its original site of production, and then considering its transformation once it is removed, and recontextualized in a variety of ways. The purpose of the course is to enable students to become informed and critical consumers of "World Music" by telling a series of stories about particular recordings made with, or using the music of, peoples culturally and geographically distant from the US. Students come to understand that not all music downloads containing music from unfamiliar places are the same, and that particular recordings may be embedded in intriguing and controversial narratives of production and consumption. At the very least, students should emerge from the class with a clear understanding that the production, distribution, and consumption of world music is rarely a neutral process.

SM 055. (NELC033) Cultural Heritage, Politics and War in the Middle East. (M) al Kuntar.

Political upheaval in the Middle East has brought cultural heritage studies to the forefront. From playing a role in the making of national identity and economy of Middle Eastern countries to falling prey to armed conflicts, cultural heritage remains an important element of the political and

social scene. This seminar will examine the relatedness of cultural heritage to questions of identity and politics in the Middle East, and the impact of recent wars on such heritage. The seminar will start by outlining the ancient and modern history of the Middle East, and reviewing the production of cultural heritage and its contemporary management in several Middle Eastern countries. It will then proceed to discuss the following major topics:

- 1) Cultural diversity of modern Middle Eastern societies, the perception of cultural heritage in these societies, and the survival of long-living historical places, old traditions, and material culture of all kinds.
- 2) The influence of ancient cultures on common fixation and beliefs of modern identity in Middle Eastern societies (e.g. particular ethnic and religious group see themselves as direct descendents of one or a number of ancient groups such as Phoenicians, Israelites, Assyrians).
- 3) The use of archeological and historical data to create narratives of the past that promote specific political ideologies in the modern Middle East and, in some cases fabricate novel cultural and political realities.
- 4) The damage done to Cultural Heritage by recent wars in Iraq, Syria, and Lebanon, and (i) how these wars are/were the makers of a new time that disrupted the living past through the destruction of cultural landscapes; and (ii) the involvement of cultural heritage institutions and archaeologists in rescuing cultural heritage in the event of war.

SM 086. Desire and Demand: Culture and Consumption in the Global Marketplace. (M) Diggs-Thompson. Freshman Seminar.

Does consumption shape culture or does culture shape consumption? As even the most mundane purchase becomes socially symbolic and culturally meaningful we can persuasively argue that the concept of "need" has been transformed. Analyzing a variety of physical and virtual consumer venues, the goal of this seminar is to understand and to analyze historical and contemporary issues related to a culture of consumption. We investigate social and political-economic factors that impact when and how people purchase goods and argue that behavior attached to consumption includes a nexus of influences that may change periodically in response to external factors. Readings and research assignments are interdisciplinary and require a critical analysis of global/local linkages. The city of Philadelphia becomes the seminar's laboratory as we ask how have issues of

culture, consumption, and global capitalism become intertwined around the world?

100. (ANTH654, NELC281, NELC681, SAST161) Topics In Anthropology and the Modern World: Afghanistan, Iran, Pakistan. (B) Spooner.

This course relates anthropological models and methods to current problems in the Modern World. The overall objective is to show how the research findings and analytical concepts of anthropology may be used to illuminate and explain events as they have unfolded in the recent news and in the course of the semester. Each edition of the course will focus on a particular country or region that has been in the news.

SM 103. (ANTH630) Empires: From Akkad to America. (C) Ristvet.

Empires have been an enduring phenomenon for more than 4,000 years, from the rise of Akkad in Mesopotamia to the American invasion in Iraq. How and why do empires emerge? How do empires work? Why do empires endure (or collapse)? This class will study the origins, structures and consequences of imperialism by comparing ancient and modern empires from all over the world. In addition to a study of the political aspects of imperialism, we will analyze the cultural and economic facets of imperialism, particularly acculturation, cultural hybridity and issues of identity. We will analyze a wide-range of data, including art and artifacts from the Penn Museum, administrative and historical records, novels and films. Empires covered may include Egypt, Assyria, Achaemenid Persia, Rome, Han China, Sassanian Persia, the Abbasid Caliphate, the Mongols, Mughal India, Mali, Inka, Aztec, Spain, Ottoman, France and America.

104. (BIBB150, GSWS103) Sex and Human Nature. (C) Living World Sector. All classes. SCHURR.

This is an introduction to the scientific study of sex in humans. Within an evolutionary framework, the course examines genetic, physiological, ecological, social and behavioral aspects of sex in humans. After providing the basic principles of evolutionary biology, the course will examine the development of sexual anatomy and physiology. How is sex determined? How is orgasm achieved? Why do girls and boys develop sexually at different ages? The role of ecology and social life in shaping human mating patterns will be evaluated through the use of ethnographies and cross-cultural materials on a variety of human cultures. Does everybody have sex the way we do?

Why marry? Are there biological bases for love? Why do we experience jealousy? Finally, topics relevant to human sexuality today will be discussed, such as recreational sex, contraception, and sexually transmitted diseases. Examples are drawn primarily from traditional and modern human societies; data from studies of nonhuman primates are also considered.

105. Human Adaptation. (C) Monge.

ANTH 105 explores the evolutionary process using humans (*Homo sapiens*) as a case study. This complex biological and cultural species is best understood within the framework of evolution as it has operated for over a billion years. Learn why humans are imperfect, not an end product of evolutionary change, and are still evolving with unpredictable consequences. Using 3 complexes that have come to characterize humans (bipedalism, rotary chewers, and big brains) we will trace the evolutionary history from the first life forms on earth to the human lineage that emerged in just the last 5 million years. The consequences for humans of this evolutionary history are profound and we witness this everyday in our own bodies. Touch fossil casts representing the whole of human evolution using the Penn Museum's prodigious casting program.

106. Anthropological Genetics. (M) Schurr. Prerequisite(s): ANTH 003.

This course explores the use of genetics to understand human biological variation and evolution. Among the areas of genetics to be explored are dermatoglyphics (fingerprints), craniometrics (skulls and teeth), anthropometrics (body dimensions), simple Mendelian traits, molecular genetics, genetics of complex traits (skin color, height, obesity), population genetics, and disease adaptations.

116. (AFRC116, LALS116) Caribbean Culture and Politics. (M) Thomas.

This course offers anthropological perspectives on the Caribbean as a geo-political and socio-cultural region, and on contemporary Caribbean diaspora cultures. We will examine how the region's long and diverse colonial history has structured relationships between race, ethnicity, class, gender and power, as well as how people have challenged these structures. As a region in which there have been massive transplantations of peoples and their cultures from Africa, Asia, and Europe, and upon which the United States has exerted considerable influence, we will question the processes by which the meeting and mixing of peoples and cultures has occurred. Course readings include material on the

political economy of slavery and the plantation system, family and community life, religious beliefs and practices, gender roles and ideologies, popular culture, and the differing ways national, ethnic, and racial identities are expressed on the islands and throughout the Caribbean diaspora.

121. (NELC103, URBS121) Origin and Cultures of Cities. (A) History & Tradition Sector. All classes. Zettler.

The UN estimates that 2.9 of the world's 6.1 billion people live in cities and that this percentage is rapidly increasing in many parts of the world. This course examines urban life and urban problems by providing anthropological perspectives on this distinctive form of human association and land use. First we will examine the "origin" of cities, focusing on several of the places where cities first developed, including Mesopotamia and the Valley of Mexico. We will then investigate the internal structure of non-industrial cities by looking at case studies from around the world and from connections between the cities of the past and the city in which we live and work today.

122. Becoming Human. (C) Natural Science & Mathematics Sector. Class of 2010 and beyond. Staff.

Human evolutionary studies is a composite product of the fieldwork of both Paleolithic archaeology and human paleontology (or what we refer to as "stones and bones"). This marriage of two subdisciplines of anthropology produces a unique set of data that is intellectually managed and driven by theories within anthropology as a whole and even beyond -- to fields such as biology, psychology, and primate ethology, as we try to understand the origins of language, culture, and our unique physical characteristics. In this course, we will jointly discuss and debate the actual evidence of human evolution, describing what the actual evidence is and exploring how far can we take these interpretations.

L/R 123. (COMM110) Communication & Culture. (C) Society Sector. All classes. Agha.

The course looks at varieties of human expression -- such as art, film, language and song -- as communicative practices that connect persons together to form a common culture. Discussion is centered around particular case studies and ethnographic examples. Examination of communicative practices in terms of the types of expressive signs they employ, their capacity to formulate and transmit cultural beliefs and ideals (such as conceptions of politics, nature, and self), and to define the size and

characteristics of groups and communities sharing such ideals. Discussion of the role of media, social institutions, and technologies of communication (print, electronic). Emphasis on contemporary communicative practices and the forms of culture that emerge in the modern world.

SM 133. (LALS133) Native Peoples and the Environment. (M) Erickson. Freshman Seminar.

The relationship between the activities of native peoples and the environment is a complex and contentious issue. One perspective argues that native peoples had little impact on the environment because of their low population densities, limited technology, and conservation ethic and worldview. At the other extreme, biodiversity, nature itself, is considered the product of a long history of human activities. This seminar will examine the myth of the ecologically noble savage, the myth of the pristine environment, the alliance between native peoples and green politics, and the contribution of native peoples to appropriate technology, sustainable development and conservation of biodiversity.

139. (NELC182, URBS139) Ancient Civilizations of the World. (M) History & Tradition Sector. All classes. Zettler.

The archaeology of the complex societies of the Old and New Worlds from the end of the Paleolithic up to and including the earliest civilizations.

141. (ARTH141) Public Policy, Museums, and the Ethics of Cultural Heritage. (A) Leventhal.

This course will focus upon and examine the ethics of international heritage and the role that Museums play in the preservation of identity and cultural heritage. The mission of this course will be to inform and educate students about the role of Museums within the 21st century. What is the role and position of antiquities and important cultural objects in Museums? How should Museums acquire these objects and when should they be returned to countries and cultural groups? Examples from current issues will be included in the reading and discussions along with objects and issues within the Penn Museum.

143. Being Human: Biology, Culture & Human Diversity. (C) Staff.

This course is an exploration of human biology from an evolutionary and biocultural perspective. Under this light, the class will provide you with general concepts for a better understanding of what it means to be human. We will see humans

as mammals, as primates, and as hominids. We will explore the basics of human genetics, growth & development, nutrition, disease and life history. Biological variation in contemporary and past societies will be reviewed in reference to evolutionary processes.

L/R 148. (CLST148, NELC183) Food and Fire: Archaeology in the Laboratory. Humanities & Social Science Sector. Class of 2010 & beyond. Katherine Moore.

This course will let students explore the essential heritage of human technology through archaeology. People have been transforming their environment from the first use of fire for cooking. Since then, humans have adapted to the world they created using the resources around them. We use artifacts to understand how the archaeological record can be used to trace breakthroughs such as breaking stone and bone, baking bread, weaving cloth and firing pottery and metals. The seminar will meet in the Penn Museum's new Center for the Analysis of Archaeological Materials. Students will become familiar with the Museum's collections and the scientific methods used to study different materials. Class sessions will include discussions, guest presentations, museum field trips, and hands-on experience in the laboratory.

SM 151. (ANTH752) Archaeology of American History. (C) History & Tradition Sector. All classes. Schuyler.

Over the last fifty years archaeologists have been exploring historic sites in the United States dating from both the Colonial Period and the 19th/20th centuries. What can archaeology now tell us about the origins of American society, the invasion of North America by various European peoples (Spanish, English, Dutch), the impact on native peoples, the rise of African American and Asian American cultures, major crisis (e.g. the revolution, Civil War, and the Great Depression), the settlement of the Far American West, and the final emergence of a truly national culture in the 20th century? A basic question will be how an American history based on both archaeology and archival sources is different and more complete than an image of the past drawn only from written sources.

158. The Neolithic Revolution. (M) Olszewski.

The advent of food production/agriculture in prehistory, sometimes referred to as the "Neolithic Revolution," represents key economic, social, and biological transitions for human groups. Food production was

characterized by the possibility for the accumulation of food surpluses, which could be used as a form of wealth. It also resulted in the reorganization of social and ritual life as people settled more permanently in villages or were involved in pastoral lifeways. Additionally, densely packed living conditions and a close association with domesticated animals led to the spread of diseases, and new forms of labor related to farming tasks, as well as diets focused on a narrower range of foods, created biological stresses in these populations. This course examines several examples of the "Neolithic Revolution" throughout the world, including the Middle East, China, Europe, Mesoamerica, South America, and the North American Southwest.

160. (CIMS106) Mythology and the Movies. (M) Krasniewicz.

Myths are powerful symbolic stories that shape how we interpret, feel about and act upon the world around us. They have been important throughout time and across cultures for the help they give humans as they make their way through social interactions of all kinds. Traditional mythological subjects of creations, hero quests, and gods and monsters are found in all the non-Western, non-industrial cultures that anthropologists study. But we can also see similar tales in our own contemporary American culture, especially in the form of blockbuster movies. This course looks at popular Hollywood movies as a form of mythology that people use to interpret, organize and make sense of the world around them. We will be applying theories from anthropology and mythology as well as analyzing the incorporation of movie mythology into everyday life through fan culture, merchandise, advertising and related media.

SM 184. Food and Culture. (M) Kauer, J.

In this seminar we will explore the various relationships between food and culture. Readings will draw from a range of fields aside from anthropology, including psychology, food studies, history, nutrition, and sociology. We will read about and discuss cross-cultural variation in food habits, the meanings underlying eating and food in the United States, and the different ways that individuals construct 'self' and identity through food and eating. Discussion in class will rely on in-depth reading, analysis, and discussion of the assigned texts. There will be a few short writing assignments throughout the class. In addition, students will conduct interviews and then write a paper based on

both these and research in the published literature.

190. (AFRC190, AFST190) Introduction to Africa. (A) Society Sector. All classes. Hasty.

During the semester we will focus on people and communities of sub-Saharan Africa and on the ways people represent, reflect on, and react to various aspects and issues in their lives and the institutions which dominate their communities. We will focus particularly on the history, contemporary expression, and inter-relationships among politics, religion, and aesthetic practice. Members of Penn's African Studies community will share their expertise with the class and introduce the University's Africa resources. Texts consist of weekly readings, films, and recordings; and class members will be expected to attend several lectures outside of class.

199. Independent Study in Anthropology. (C) Staff. Prerequisite(s): Junior or senior standing and written permission of instructor and undergraduate chair. See Department for Advisor.

A study under faculty supervision of a problem area or topic not included in the formal curriculum.

SM 204. Theoretical Foundations. (M) Thomas. Prerequisite(s): STUDENTS SHOULD HAVE COMPLETED AT LEAST ONE ANTHROPOLOGY COURSE BEFORE REGISTERING FOR ANTH204.

Ever wonder what the point was of reading the "founding fathers" of the discipline (and yes, they were most often fathers)? Ever feel like the "old stuff" and the "old questions" have no relevance to your contemporary interests? This course, designed primarily for cultural anthropology majors, will provide clues. This is NOT a comprehensive history of the discipline. Instead, we will examine some of the main issues that have been foundational to anthropology, and will explore how approaches to these issues have changed over time. To do so, we will contextualize our analysis of transformations in anthropological knowledge production within historical and contemporary political economies. By exploring core issues that continue to inspire and inform anthropological theory and ethnographic practice, we will solidify our commitment to a holistic and relational understanding of social processes.

210. Death: Anthropological Perspectives. (M) Monge.

This course will cover the topic of DEATH from a bio/cultural perspective including the evolution of life history (aging and demography - mortality) as well as from an archaeological perspective (prehistory) and early history of mortuary practices. Nothing in the lifespan of humans is so revealing on the interface of culture and biology as is death and the experience of death. This course is not concerned specifically with how an individual experiences death, but in the ways that culture and biology have come to define and deal with physical death and the death experience.

218. (EALC018) Globalizing East Asia. (M) Kim.

This course explores the changing culture and society of China, South Korea, and Japan and analyzes the reactions of ordinary people to these changes. Our course discussion begins with a critical investigation into traditional societies based on patriarchy, Confucian ethics, and subsistence agriculture and how they have changed since their initial encounters with expanding global capitalism. This course then examines how the recently intensifying transnational movements of capital, commodities, people, and "cultures" have created particular cultural and societal forms in the region. Drawing on ethnographic, historical, and political literature about the three countries, students can understand how the particular culture and economy of each country has contributed to creating different paths of their historical-cultural transformations. Our topics include: changes in traditional families and gender roles, international wars and massive modernization movements; corporate culture and its local variations; domestic and international labor migration and the conditions of migrant workers; international marriages and transnational flow of brides; US-based fast food restaurants and food crisis; emerging consumerism and commodification of childhood; "odorless" Japanese cultural products and their popularity in Asian countries.

SM 219. (ANTH719) Archaeology Field Project. (A) Humanities & Social Science Sector. Class of 2010 & beyond. Schuyler. Permission of instructor required.

First-hand participation in research project in historical archaeology in Southern New Jersey. Transportation provided by the university. Students will assist in excavations and archival research on local archaeological sites. Class is open to all

undergraduates, no previous archaeological experience is required. Attendance will involve Fridays or Saturdays, all day from 8:00 to 5:00 including travel time to the excavations and back to the University Museum. Students enroll for only one day (F or S). Enrollment is limited so specific permission of the instructor is required (Robert L. Schuyler: schuyler@sas.upenn.edu; (215)898-6965; U Museum 412). A follow up laboratory course (Anth 220 in the spring semester) will also be available during which the artifacts and documentary sources collected in the fall will be analyzed at the University Museum. Course may be repeated for credit.

220. (ANTH720) Archaeology Laboratory Field Project. (B)

Humanities & Social Science Sector. Class of 2010 & beyond. Schuyler.

Follow-up for Anthropology 219. Students may enroll in either or both courses, and in any sequence; however, preference will be given to those previously enrolled in 219 that Fall. Class will meet in three hour sections on Fridays and Saturdays and will involve the analysis of artifacts, documentary records, oral historic sources and period illustrations collected on Southern New Jersey historic sites that Fall. No previous archaeological or lab experience is required. (Robert L. Schuyler: schuyler@sas.upenn.edu; (215) 898-6965; UMuseum 412). Course may be repeated for credit.

221. (ANTH521, ARTH230, CLST244, NELC284, NELC584) Material World in Archaeological Science. (M)

Boileau/Dibble.

By focusing on the scientific analysis of inorganic archaeological materials, this course will explore processes of creation in the past. ANTH 221 will take place in the new Center for the Analysis of Archaeological Materials (CAAM) and will be team taught in three modules: analysis of lithics, analysis of ceramics and analysis of metals. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how the transformation of materials into objects provides key information about past human behaviors and the socio-economic contexts of production, distribution, exchange and use. Discussion topics will include invention and adoption of new technologies, change and innovation, use of fire, and craft specialization.

223. (ANTH523) Indigenous Archaeology. (M) Staff.

This seminar is an introduction to Indigenous archaeologies. These approaches have been defined as archaeology "with, for and by Indigenous peoples." However, they are in fact more than this. Not only do they seek to make archaeology more representative of and responsible to Indigenous communities. They also seek to contribute to a more accurate understanding of the archaeological record through the incorporation of Native epistemologies. This course covers such topics as the history of American archaeology, indigenous knowledge and cultural values, NAGPRA, museumification, decolonizing methodologies, and current debates.

228. (EALC037) Chinese Culture and Society. (M) Kim.

This course investigates diverse aspects of Chinese culture and society in the past and the present. Our discussion will begin by critically examining the alleged common characteristics of traditional Chinese culture and society, such as patrilineal kinship and Confucian ethics. For the Maoist era, we will discuss the impacts of the radical socialist movements, such as Great Leap Forward and Cultural Revolution, on local communities, families, and individuals. Later we will analyze the increasingly complex cultural and social landscapes of the Post-Mao China: How did the one-child policy contribute to the rediscovery of childhood and the emerging consumer culture in China? Have the new job opportunities created by the socialist market economy improved women's status? What are the effects of multinational corporations on local communities? How can we explain the relation between the creation of social stigma and infectious diseases such as AIDS?

230. (ANTH633, CRIM230) Forensic Anthropology. (M) Monge.

This course will investigate and discuss the various techniques of analysis that biological anthropologists can apply to forensic cases. Topics include human osteology, the recovery of bodies, the analysis of life history, the reconstruction of causes of death, and various case studies where anthropologists have contributed significantly to solving forensic cases. Discussions will include the limitations of forensic anthropology and the application of DNA recovery to skeletal/mummified materials.

231. (CIMS231) Anthropology and the Cinema. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Krasniewicz.

This course analyzes mass-market American films using traditional anthropological theories about symbolism, ritual, mythology, language, metaphor, narrative, and discourse. The goal is to think of the movies as significant cultural artifacts that we use to make sense of the world rather than as just forms of entertainment or art. Through a study of popular American films and their related merchandise and cultural influences, we will also see how anthropology can be used to study contemporary cultures.

236. (ANTH636, NELC241, NELC641, URBS236) Iraq: Ancient Cities & Empires. (M) Zettler.

This course surveys the cultural traditions of ancient Mesopotamia, the land between the Tigris and Euphrates Rivers, a region commonly dubbed "cradle of civilization" or "heartland of cities," from an archaeological perspective. It will investigate the emergence of sedentism and agriculture; early villages and increasingly complex Neolithic and Chalcolithic cultures; the evolution of urban, literate societies in the late 4th millennium; the city-states and incipient supra-regional polities of the third and second millennium; the gradual emergence of the Assyrian and Babylonian "world empires," well-known from historical books of the Bible, in the first millennium; and the cultural mix of Mesopotamia under the successive domination of Greeks, Persians and Arabs. The course seeks to foster an appreciation of the rich cultural heritage of ancient Mesopotamia, an understanding of cultural continuities in the Middle East and a sense of the ancient Near Eastern underpinnings of western civilization. No Prerequisite.

L/R 238. (HSOC238) Introduction to Medical Anthropology. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Barg.

Introduction to Medical Anthropology takes central concepts in anthropology -- culture, adaptation, human variation, belief, political economy, the body -- and applies them to human health and illness. Students explore key elements of healing systems including healing technologies and healer-patient relationships. Modern day applications for medical anthropology are stressed.

244. Disease and Human Evolution. (M) Schurr.

This course will explore the role played by disease in human evolution, from the emergence of the human lineage to the present day. We will evaluate both infectious and non-infectious diseases, and examine the way in which populations and disease organisms have co-evolved. Related issues to be explored include the nature of the virulence and pathogenicity of infectious agents, and the impact of vaccination on pathogen evolution. In addition, we will discuss the epidemiological transition and the rise of complex diseases of modernization (e.g., diabetes, cancer) that has occurred in the past several centuries. Overall, the course will provide a broader understanding of the influence of disease processes on the evolution of the human species.

SM 246. (ANTH649) Molecular Anthropology. (C) Schurr.

Prerequisite(s): ANTH 003, Intro to Human Evolution; some background in biology and genetics will also be useful.

In this course, we will explore the molecular revolution in biological anthropology, and, in particular, examine the nature and theory of collecting molecular data to address anthropological questions concerning human origins, evolution and biological variation. Some of the topics to be covered in this course are the phylogenetic relationships among primates, kinship in apes and monkeys, the hominoid trichotomy, modern human origins and migrations, Neandertal genetics, biogenetics of skin color, disease adaptations, and the Human Genome Project.

247. (ANTH747) Archaeology Laboratory Field Project-Summer. (L) Schuyler.

This course is a summer version of Anth 220 (see that course for full description). In summer more emphasis will be placed on field visitations. Course open to all students; no instructor permission needed. Course may be repeated for credit and students may take both anth 247 and 220. Questions: contact Robert L Schuyler; schuyler@sas.upen.edu; (215) 898-6965; Univ Museum 412/6398.

248. Food and Feasting: Archaeology of the Table. (C) Moore.

Food satisfies human needs on many levels. Anth 248 explores the importance of food in human experience, starting with the nutritional and ecological aspects of food choice and going on to focus on the social and ritual significance of foods and feasts.

Particular attention will be paid to the way that archaeologists and biological anthropologists find out about food use in the past. Contemporary observations about the central significance of eating as a social activity will be linked to the development of cuisines, economies, and civilizations in ancient times. The course will use lectures, discussions, films, food tastings, and fieldwork to explore the course themes. An optional community service component will be outlined during the first week of class.

SM 249. Evolutionary Medicine. (C)

Schurr. Prerequisite(s): ANTH 003 and ANTH 143 (or permission for undergraduates).

Evolutionary medicine is the application of modern evolutionary theory to studies of health and disease in humans. In taking this approach, the course will explore the roles played by disease in human evolution, and investigate both the proximate and evolutionary explanations for them. We will examine both infectious and non-infectious diseases, and assess the way in which populations and disease organisms have co-evolved. Related issues to be examined are the nature of the virulence and pathogenicity of infectious agents, and their efforts to subvert the immune system's responses to infection. In addition, we will explore the evolved responses that enable individuals to protect, heal and recuperate themselves from infections and injuries, such as fever and sickness behavior, and the fitness enhancing aspects of these processes. Finally, we will investigate how past adaptations of early humans to their environments now affects modern humans, who have very different diets, life expectancy, activity patterns, and hygiene than their ancestors.

SM 252. (URBS352) Food Habits in Philadelphia Communities: Exploring Eating and Changing Food Habits in Philadelphia Middle Schools. (C) Kauer.

In this course, Penn undergraduates will explore and examine food habits, the intersection of culture, family, history, and the various meanings of food and eating, by working with a middle-school class in the Philadelphia public schools. The goal of the course will be to learn about the food habits of a diverse local community, to explore that community's history of food and eating, and to consider ways and means for understanding and changing food habits. Middle school students will learn about the food environment and about why culture matters when we talk about food. Topics include traditional and modern

foodways, ethnic cuisine in America, food preferences, and 'American cuisine'. The course integrates classroom work about food culture and anthropological practice with frequent trips to middle schools where undergraduates will collaborate with students, their teachers, and a teacher partner from the Agatston Urban Nutrition Initiative (UNI). Students will be required to attend one of two time blocks each week to fulfill the service learning requirement- Mondays or Wednesdays 3-6pm for the Spring 2015 semester.

Undergraduates will be responsible for weekly writing assignments responding to learning experience in the course, for preparing materials to use with middle school children, for being participant-learners with the middle school children and for a final research project. The material for the course will address the ideas underlying university-community engagement, the relationships that exist between food/eating and culture, and research methods.

SM 254. (LALS254) Archaeology of the Inca. (M) History & Tradition Sector. Erickson.

The Inca created a vast and powerful South American empire in the high Andes Mountains that was finally conquered by Spain. Using Penn's impressive museum collections and other archaeological, linguistic, and historical sources, this course will examine Inca religion and worldview, architecture, sacred temples, the capital of Cuzco, ritual calendar, ceque system, textiles, metalworking, economic policies and expansionist politics from the dual perspectives of Inca rulers and their subjects. Our task is to explain the rise, dominance, and fall of the Incas as a major South American civilization.

258. (CIS 106, LALS268) Visualizing the Past/Peopling the Present. (M) Badler/Erickson.

Most people's information about the Past is drawn from coffee table picture books, popular movies, video games, documentaries about discoveries of "ancient, mysterious, and lost" civilizations, and tours often led by guides of limited or even dubious credentials. How are these ideas presented, formed, and circulated? Who creates and selects the information presented in this diverse media? Are these presentations accurate? Do they promote or hurt scientific explanations? Can the artistic, aesthetic, and scientific realms be bridged to effectively promote the past? This class will focus on case studies and critiques of how archaeology and the past

are created, presented and used in movies, museums, games, the internet, and art.

In addition to exploring general concepts of archaeology and the media, students will work in teams to produce an interactive, digital media exhibit using the latest modeling and augmented reality programs for the new archaeological museum at the UNESCO World Heritage site of Tiwanaku, Bolivia. Although nearly abandoned for a millennium and sacked by treasure hunters, the ruins are considered one of the most important archaeological sites in South America and visited by 45,000 tourists a year. Potential class projects include fly-throughs of architectural renderings; simulations of the design and engineering of the pyramids, temples, and palaces; modeling of human behavior within architectural settings; and studying artifacts in the Penn Museum. The results will be displayed in the Tiwanaku Museum and will serve to introduce visitors to the site.

SM 260. (STSC268) Cultures of Science and Technology. (M) Petryna.

Science and technology figure centrally in the economic, political, and socio-cultural changes that impact our worlds. Happenings in the life sciences, including the discovery of new genes, pathways, and processes, are redrawing concepts of the body and human nature and refiguring social and political relations. The seminar starts from the premise that scientific facts are made, not things existing a priori in the world and that are merely picked up by researchers and consumed by lay audiences. Likewise, technologies are created through a process of intense negotiation between producers and their sophisticated users. Focusing on the biosciences, we explore the production of science and technology and how they 1) affect individuals, self-identities, subjectivity, kinship, and social relationships; 2) have interacted with or reinforced political programs, racial classifications, unequal access to knowledge, and patterns of social injustice; 3) inform contemporary institutional structures, strategies of governance, and practices of citizenship. We will combine methods and perspectives from social and cultural anthropology, and the social studies of science and technology, and will draw from historical case studies, contemporary ethnographies of science, scientific and medical journals, documentary films and media reports.

267. (ANTH567, CLST268, CLST568, NELC286, NELC586) Living World in Archaeological Science. (M)

Kassabaum, Monge, Moore.

By focusing on the scientific analysis of archaeological remains, this course will explore life and death in the past. It takes place in the new Center for the Analysis of Archaeological Materials (CAAM) and is team taught in three modules: human skeletal analysis, analysis of animal remains, and analysis of plant remains. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how organic materials provide key information about past environments, human behavior, and cultural change through discussions of topics such as health and disease, inequality, and food.

SM 273. (HSOC239) Global Health: Anthropological Perspectives. (M)

Petryna.

In some parts of the world spending on pharmaceuticals is astronomical. In others, people struggle for survival amid new and reemerging epidemics and have little or no access to basic or life-saving therapies. Treatments for infectious diseases that disproportionately affect the world's poor remain under-researched and global health disparities are increasing. This interdisciplinary seminar integrates perspectives from the social sciences and the biomedical sciences to explore 1) the development and global flows of medical technologies; 2) how the health of individuals and groups is affected by medical technologies, public policy, and the forces of globalization as each of these impacts local worlds. This course is a Benjamin Franklin Seminar.

The seminar is structured to allow us to examine specific case material from around the world (Haiti, South Africa, Brazil, Russia, China, India, for example), and to address the ways in which social, political-economic, and technological factors -- which are increasingly global in nature -- influence basic biological mechanisms and disease outcomes and distribution. As we analyze each case and gain familiarity with ethnographic methods, we will ask how more effective interventions can be formulated. The course draws from historical and ethnographic accounts, medical journals, ethical analyses, and films, and familiarizes students with critical debates on globalization and with local responses to globalizing processes.

SM 282. (CIMS282, ENGL282, RELS208) Native American Literature. (M) Powell.

Spring 2014 Topic: This course will explore the dramatic changes that have occurred in the last century in the way Native Americans have been represented in the medium of film. Beginning with silent films like *The Vanishing American* and moving forward to contemporary films written, directed, and acted by Native Americans, the class will progress from the study of stereotypical images of Hollywood films to the current era of the Native American Renaissance, which has produced films like *Smoke Signals*, *Whale Rider*, and *The Fast Runner*. Because the course is cross-listed in Religious Studies, English, and Anthropology, we will focus on the power of film to convey dimensions of Native American cultures that are more difficult to appreciate in written accounts. In other words, film is able to convey dimensions of the oral tradition, material culture, and spiritual significance of the land much more effectively because of the visual and audio components of the medium. The films will be situated in a richly nuanced historical and cultural context in order to provide students with a fuller sense of the Native cultures that are the subjects of the films studied during the semester.

SM 300. Senior Capstone Seminar.

(A) Staff. Open to senior anthropology majors.

ANTH 300 is a Capstone Seminar for anthropology majors in their senior year. It defines the Penn anthropology major by bringing together and inter-relating major threads from the different subfields of the Penn anthropology curriculum. Each session includes contributions from members of the standing faculty and seminar discussions of a research theme in which anthropological knowledge is currently progressing.

301. Senior Thesis. (B) Staff. Permit required.

Individual research under faculty supervision culminating in a thesis.

SM 305. (ANTH609, URBS409) Anthropology & Policy: History, Theory, Practice. (B) Staff.

From the inception of the discipline, anthropologists have applied their ethnographic and theoretical knowledge to policy issues concerning the alleviation of practical human problems. This approach has not only benefited peoples in need but it has also enriched the discipline, providing anthropologists with the

opportunity to develop new theories and methodologies from a problem-centered approach. The class will examine the connection between anthropology and policy, theory and practice (or 'praxis'), research and application. We will study these connections by reading about historical and current projects. As an ABCS course, students will also volunteer in a volunteer organization of their choice in the Philadelphia area, conduct anthropological research on the organization, and suggest ways that the anthropological approach might support the efforts of the organization.

307. (ANTH607) Contemporary Native Americans. (M) Bruchac.

This course examines the social and political lives of contemporary Native American Indians in the United States and Canada. Topics include: Indigenous identity; homelands and natural resources; popular culture and media; Indigenous arts and cultural expression; museum representations; athletics; gender relations; tribal recognition and sovereignty; and resistance movements. We will consider the origins of federal programs and legislation that have become essential to the protection of Native American freedoms. Students can expect to gain an appreciation of the complexity and cultural diversity of Native communities and tribal nations and insights into their interactions with other cultures over time.

SM 308. Ethnohistory of the Native Northeast. (C) Bruchac.

Ethnohistory is a multi-disciplinary form of ethnographic study and documentary research that employs both anthropological and historical approaches. This course examines the foundations of the ethnohistorical method as a means to interpret cross-cultural colonial interactions and conflicts, and to better understand the complex histories of Native American Indian peoples from Pennsylvania and northward and eastward. Students will develop skills and strategies for interpreting and contextualizing primary and secondary source materials, oral traditions, colonial records, historical maps, and material culture. Hands-on study will include visits to local archives and historical sites to view relevant documents and landscapes.

SM 309. (ANTH519) Psychoanalysis and Anthropology. (C) Urban.

This course will introduce students to the rich literature that has grown up around the encounter between psychoanalysis and anthropology, from totem and taboo, to studies of the Oedipus complex, child-

rearing practices, ritual symbolism, mythology, and dreams. The class will also look to the future, endeavoring to examine as well such issues as the role of computers (are they self objects?) and the internet (including such online games as "Second Life"), dreams in space alien abduction narratives, sexuality in advertising, political psychology, and other contemporary issues.

SM 312. (HSOC321, URBS312) Health in Urban Communities. (A) Johnston.

This course will introduce students to anthropological approaches to health and to theories of participatory action research. This combined theoretical perspective will then be put into practice using West Philadelphia community schools as a case study. Students will become involved in the design and implementation of health-related projects at an urban elementary or middle school. As one of the course requirements, students will be expected to produce a detailed research proposal for future implementation.

SM 316. Anthropology of Global Labor. (M) Kim.

This course explores the theoretical and ethnographic approaches to the diverse forms of labor in the world. Course discussions will begin by examining how the historical process of industrialization created the modern concepts of time and the ideal industrial workers. Later we will investigate how local communities and individuals react to the changes caused by rapidly globalizing capitalism. By reading ethnographic writings about the various workplaces in capitalist and post-socialist countries, students can understand how the existing "culture" of the people has affected their reactions to the incessant changes. Course topics include both domestic and international cases. For domestic workplaces, we will look into the daily lives of MBA job holders in Manhattan, part-time restaurant workers in the Midwest, and Mexican migrant workers in the Deep South. For international workplaces, we will investigate Japanese white-collar workers' reaction to the call of globalization, Colombian tin miners' survival strategies to the fluctuating international market price of tin ore, Chinese workers' understanding of their sweatshop jobs, Indian women workers' views about their jobs in a global call center; origins of "corporate culture" and its local applications in South Korea.

SM 319. (CLST309) Pottery & Archaeology. (M) Boileau.

Prerequisite(s): Any introduction to archaeology course or permission of instructor.

Pottery is the most ubiquitous material recovered from most archaeological sites of the last 10,000 years; all archaeologists must be capable of working with it. This course presents the basics on the recovery, documentation, and analysis of archaeological pottery. Instruction includes treatment of pottery in the field, museum, and laboratory. Students will develop critical awareness of the potentials and problems of interpreting pottery within the wider social contexts of production, exchange and consumption. This course will foster an appreciation of the range and complexity of pottery studies and encourage students to understand the materials and technological processes used in the manufacture of pottery.

328. Performing Culture, Native American Arts. (C) Bruchac.

This course analyzes cultural performances as sites for the formation, expression, and transmission of social identity. Students will read ethnographies, critiques, and reports of performance genres including ritual, theater, music, dance, art, and spoken word, with a particular focus on Native American and Indigenous arts and expressions. Topics include: expressive culture as survivance; debates around authenticity and invented traditions; public identity and sexuality; political resistance; the effects of globalization; transnationalism and hybridity; cultural appropriation; and the transformation of folk performances in the wake of modern media.

SM 329. (ANTH529, PSYS329) Psychoanalytic and Anthropological Perspectives on Childhood. (M) Lawrence Blum.

This course will consider the interaction between culture and individual psychology, and between nature and nurture from birth to adulthood. Through through an examination of phases of human development described by psychoanalysis, and evidence concerning psychoanalytic ideas from around the world, we will consider questions such as: How do people become who they are, both similar to others and uniquely individual? How do we develop emotionally? What features are and are not universal for our species? What is and is not known about these questions. The instructors are both psychoanalysts, one a psychiatrist, one a pediatrician.

SM 334. (AFRC334, AFRC634, ANTH634, GSWS334, GSWS634) Feminist Ethnography. Thomas.

Prerequisite(s): Should have some fundamental knowledge of Cultural Anthropology.

This course will investigate the relationships among women, gender, sexuality, and anthropological research. We will begin by exploring the trajectory of research interest in women and gender, drawing first from the early work on gender and sex by anthropologists like Margaret Mead and Ruth Benedict; moving through the 1970s and 1980s arguments about gender, culture, and political economy; arriving at more current concerns with gender, race, sexuality, and empire. For the rest of the semester, we will critically read contemporary ethnographies addressing pressing issues such as nationalism, militarism, neoliberalism and fundamentalism. Throughout, we will investigate what it means not only to "write women's worlds", but also to analyze broader socio-cultural, political, and economic processes through a gendered lens. We will, finally, address the various ways feminist anthropology fundamentally challenged the discipline's epistemological certainties, as well as how it continues to transform our understanding of the foundations of the modern world.

341. (ANTH667) Psychology and Culture. (C) Urban. Prerequisite(s): ANTH 002.

The topic in the coming term is identity. "Identity," according to AFC Wallace, "may be considered any image, or set of images (conscious or unconscious), which an individual has of himself or herself". The full set of images of self refers to many aspects of the person on a number levels of generality: "his or her" wishes and desires, strengths and capabilities, vulnerabilities and weaknesses, past experiences, moral qualities, social status and roles, physical appearance, sexual orientation, ethnic, religious, or group identification and much else. Our task in this course is to examine the ways people develop and deploy their social and personal identity over the course of their lives under conditions of a culturally constituted conception of self. Cross-cultural materials we will consider include films, autobiographical writings, personal observations, and life history representations.

SM 347. Anthropology of Corporations. (C) Urban.

Modern business corporations can be characterized as having their own internal cultures, more or less distinct from one

another. They also exist within encompassing cultures and cultural flows. At the same time, corporations are producers and disseminators, and thus have effects on their surrounding environments, effects that extend from the local to the global. This course examines modern corporations from these three perspectives through theoretical and ethnographic readings, guest speakers from the corporate world, and independent research conducted by the students. Course requirements include student presentations of their research and readings; one or more take-home exams; and a final research paper.

SM 359. (HSOC359, URBS359) Nutritional Anthropology. (M) Rovner.

This course will explore the significance as it relates to food behaviors and nutritional status in contemporary human populations. The topics covered will be examined from a biocultural perspective and include 1) definition and functions of nutrients and how different cultures perceive nutrients, 2) basic principles of human growth and development, 3) methods to assess dietary intake, 4) food taboos, 5) feeding practices of infants and children, 6) food marketing, 7) causes and consequences of under and overnutrition and 8) food insecurity and hunger

362. (AAMW562, CLST362, CLST562) Intro to Digital Archaeology. PETER COBB. Prerequisite(s): Prior archaeological classwork and/or experience preferred.

Digital methods allow archaeologists to approach research questions about the human past with increasing accuracies on larger datasets and at multiple scales. This class introduces students to the three main steps of digital archaeology: data management, analysis, and sharing. Data management involves the design, creation, and curation of digital objects that capture the archaeological process and evidence. Students will gain deep familiarity in working with the main types of digital archaeological data: structured data (relational databases), 3D models/spatial data, and raster images. The class will provide abundant hands-on experience with the latest equipment and software for working with many different kinds of data. We will learn about data analysis techniques through a close examination of a variety of case studies in the literature that demonstrate how other archaeologists have applied digital methods to their archaeological questions. Finally, we will discuss the importance of sharing data through open access data publication and we will apply our skills with structured data

to existing online archaeological datasets. The goal of this class is to prepare students to make methodological decisions during future research endeavors, both in the field and in the archaeological lab.

404. Introduction to the Human Skeleton. (M) Monge.

An introduction to the anatomy and biology of the human skeleton. Laboratory work will be supplemented by lectures and demonstrations on the development structure, function, and evolution of the human skeleton.

407. Human Evolution. (M) Monge. Prerequisite(s): ANTH 003.

An examination of the fossil and other evidence documenting human evolution. Lectures and readings are supplemented with slide and fossil reproduction materials.

L/L 415. Archaeology of Animals. (M) Moore. Prerequisite(s): ANTH 001 or permission from instructor.

This course introduces the study of animal bones from archaeological sites. Faunal analysis is an interdisciplinary science which draws methods from archaeology, biology, and paleontology. Bones, shells, and other remains yield evidence for the use of animals by humans, and evidence for the biology of animals and for past environments. The course will focus on research approaches to important transitions in human-animal relationships: the development of human hunting and fishing, animal domestication, early pastoralism, and the emergence of market economies in animal products. Class presentations will include lectures and discussion concerning research design and archaeological case material, with additional videos, slidework with field and laboratory equipment, and supervised work identifying and describing archaeological materials from the University Museum's collections.

SM 420. Nations, Nationalism & Politics. (M) Kim.

This course explores historical and ethnographic approaches to the diverse forms of nations and nationalism in the world. Course discussions will begin by examining how capitalism contributed to the formation of a nationalist bourgeois class and how this "historical" class took a key role in creating the concepts of nation, national territory and unified national market. We will investigate how people and local communities reacted to the changes caused by these spreading ideas. By reading about the various forms and ideas of nation and nationalism, students

can understand how the unique conditions of a specific locale have affected their formation, sometimes with destructive consequences, examining cases both from "the West" and "the rest". In the case of the West we will firstly look into the constructive role of bourgeois class during the French Revolution and how they created the ideal form of a nation, which has clearly divided national territories, a national language and a national education system, army, and most of all, a unified national market. Later we will discuss how the image of the ideal nation has been transferred to other places and transformed according to the specific local situations.

For these cases, we will analyze the fledgling democracy of the new colony of Great Britain (the U.S.), the primordial nationalism of Japan and Korea (both North and South), the emerging patriotic nationalism of China, the process of nation building in the Southeast Asian countries such as Singapore, Malaysia and Indonesia, the militant/jingoistic nationalism of the post-socialist countries such as Russia, and so on.

SM 429. Anthropology of the Environment. Petryna.

This seminar draws from social scientific and scientific literatures to explore current themes in the anthropology of the environment. We will investigate the links between climate change science and social science, and the ways in which anthropologists can contribute via in-depth fieldwork methodology and long engagement in issues of society-environment interactions. We will also explore how potential environmental, social, and biological impacts of global warming on the future are being assessed through conceptual paradigms linked to risk, probability, scenario forecasting, tipping points, planetary boundaries, and extinction.

433. (LALS433) Andean Archaeology. (M) Erickson.

Consideration of the culture history of the native peoples of the Andean area, with emphasis on the pre-conquest archaeology of the Central-Andean region.

SM 441. (HSOC441) Cross Cultural Approaches to Health and Illness. (M) Barg.

This course will explore the ways that health and illness-related beliefs and behaviors develop within communities. We will identify the forces that shape these beliefs and behaviors and ultimately affect who gets sick, who gets well, and the very nature of the illness experience. Emphasis

will be given to the relationships among sociocultural, political and biological factors and the ways that these factors interact to produce the variation that we see in health and illness related attitudes, behaviors and outcomes across cultures.

SM 451. (ANTH751) Historical Archaeology. (M) Schuyler.

Archaeology of the Modern World from the Columbian voyage (1492) to the 20th century. Topics such as the rise of early modern Europe, European exploration and colonization, African American Archaeology, Asian American Archaeology, the rise of colonial society, contact with native peoples, the Industrial Revolution, and the archaeology of the 20th century will be covered.

454. Quantitative Analysis of Anthropological Data. (C) Dibble.

Problem-oriented approach to application of quantitative methods in anthropological research. Emphasis on formulation of specific problems using real data sets by each student in his or her area of interest. The logic of problem solving using quantitative arguments, the investigation of data reliability and representativeness, and the use of statistical arguments in the presentation of results covered in detail. Use of digital computers as research tools will be an integral part of the presentation.

102. (CIMS112, COML245, ENGL102, GSWS102) STUDY OF A THEME.

SM 369. (ENGL369, GSWS369) Topics in Poetry and Poetics.

Graduate Courses

SM 511. (HIST512) Ethics, Archaeology Cultural Heritage. (M) Leventhal.

This seminar will explore some of the most important issues that are now a central part of archaeological, anthropological and historical research throughout the world. The identification and control of cultural heritage is a central part of the framework for research within other communities. Issues for this course will also include cultural identity, human rights, repatriation, colonialism, working with communities and many other topics. Field research today must be based upon a new series of ethical standards that will be discussed and examined within this class. Major topics include: cultural heritage - definitions and constructs, cosmopolitanism and collecting, archaeology and looting, cultural heritage preservation, museums - universal and national, museum acquisition policies,

cultural identity, international conventions (including underwater issues), national laws of ownership, community based development, cultural tourism, development models, and human rights.

SM 512. Experimental Lithic Technology. (M) Dibble.

Stone tools are the most significant source of information about past human behavior and evolution over the past 2.5 million years. But because stone technology has been largely abandoned, archaeologists often rely on experiments to help them determine how such tools were made and used. This course will review the kinds of experiments most often used (both actualistic and replicative), but will focus on understanding the mechanics of stone flaking through controlled experiments. As part of their study, students will take part in both designing and implementing a series of experiments involving mechanical flaking of molded glass cores, and will apply the results of this research to archaeological specimens.

SM 516. (AFST516, GSWS516, URBS516) Public Interest Workshop. (M) Suess.

This is a Public Interest Ethnography workshop (originally created by Peggy Reeves Sanday - Department of Anthropology) that incorporates an interdisciplinary approach to exploring social issues. Open to graduate and advanced undergraduate students, the workshop is a response to Amy Gutmann's call for interdisciplinary cooperation across the University and to the Department of Anthropology's commitment to developing public interest research and practice as a disciplinary theme. Rooted in the rubric of public interest social science, the course focuses on: 1) merging problem solving with theory and analysis in the interest of change motivated by a commitment to social justice, racial harmony, equality, and human rights; and 2) engaging in public debate on human issues to make research results accessible to a broader audience. The workshop brings in guest speakers and will incorporate original ethnographic research to merge theory with action. Students are encouraged to apply the framing model to a public interest research and action topic of their choice. This is an academically-based-community-service (ABCS) course that partners directly with Penn's Netter Center for Community Partnerships.

SM 519. (ANTH309) Psychoanalysis & Anthropology. (C) Urban.

This course will introduce students to the rich literature that has grown up around the encounter between psychoanalysis and anthropology, from totem and taboo, to studies of the Oedipus complex, child-rearing practices, ritual symbolism, mythology, and dreams. The class will also look to the future, endeavoring to examine as well such issues as the role of computers (are they self objects?) and the internet (including such online games as "Second Life"), dreams in space alien abduction narratives, sexuality in advertising, political psychology, and other contemporary issues.

525. (PUBH526) Anthropology and Public Health. (M) Barg. Prerequisite(s): PUBH 502.

In this course, we examine three types of relationships between anthropology and public health. Anthropology and public health will examine complementary and competing concepts fundamental to each discipline and ways that these concepts make it essential and difficult for the disciplines to work together. Anthropology on public health takes a critical look at assumptions in public health praxis. Anthropology in Public Health will focus on ways that anthropological theory and methods inform the practice of public health. Using these three approaches, we will examine topics in public health such as mental health, health promotion/disease prevention communication, cancer disparities, reproductive health, violence and infectious disease. Students will learn and apply anthropologic research methods to these problems.

SM 529. (ANTH329, PSYS329) Psychoanalytic and Anthropological Perspectives on Childhood. (M)

Lawrence Blum.

This course will consider the interaction between culture and individual psychology, and between nature and nurture from birth to adulthood. Through an examination of phases of human development described by psychoanalysis, and evidence concerning psychoanalytic ideas from around the world, we will consider questions such as: How do people become who they are, both similar to others and uniquely individual? How do we develop emotionally? What features are and are not universal for our species? What is and is not known about these questions. The instructors are both psychoanalysts, one a psychiatrist, one a pediatrician.

SM 542. (COMM542, EDUC545) Part I- Documentary, Ethnography, and Research: Communicating Scholarship through Film/Video. Jackson.

Students will learn how to write, shoot, edit, and upload documentary films over the length of this two-part course. In the first part, students complete a program of hands-on formal training in filmmaking while they simultaneously identify a research subject that they will propose to depict in a documentary film. In the second part of the course students will produce the faculty-approved documentary themselves. The film's final cut must be screened by the end of the second semester. Students should expect to work on their projects outside class time. The school will provide basic filmmaking equipment- video cameras and computers for editing in labs. Students are responsible for all storage (computer drives), tapes, dvds, and project related costs.

547. (EDUC547, FOLK527, URBS547) Anthropology & Education. (C) Hall.

An introduction to the intent, approach, and contribution of anthropology to the study of socialization and schooling in cross-cultural perspective. Education is examined in traditional, colonial, and complex industrial societies.

SM 556. (AAMW556) Practicum in Archaeological Field Methods and Problems. (M) Dibble. Prerequisite(s): ANTH 241 or 600 and one archaeology area course or permission of instructor.

Seminar analyzing process of archaeological excavation as a problem of research design and method, stressing excavation as an integrated methodological system of research dealing with data retrieval, storage processing, integration and interpretation leading to final publication. Course intended for students proposing archaeological careers; it will be assumed participants have some practical excavation experience.

SM 557. (AAMW557, LALS557) Seminar in Archaeological Theory and Method: Archaeology of Landscapes. (M) Erickson.

Prerequisite(s): ANTH 241 or 600 and one archaeology area course or permission of instructor.

Advanced seminar for potential professional archaeologists. Course will examine critically main past and present theoretical issues in archaeological research and interpretation, and consider various methodologies utilized towards these interpretive ends.

561. (VCSN657) Global Food Security. (M) Spooner.

This is an interdisciplinary course on the problems of food demand and consumption, production and supply in our increasingly globalized and urbanizing world. Special attention will be given to the intersections of current technologies of food production, current nutritional problems, environmental change and resource degradation, and the changing quality of human social life under globalization. Where and how will sufficient nutritious food be produced sustainably and how can the politics and economics of equitable distribution in such large urban populations be achieved?

567. (ANTH267, CLST268, CLST568, NELC286, NELC586) Living World in Archaeological Science. (M)

Kassabaum, Monge, Moore.

By focusing on the scientific analysis of archaeological remains, this course will explore life and death in the past. It takes place in the new Center for the Analysis of Archaeological Materials (CAAM) and is team taught in three modules: human skeletal analysis, analysis of animal remains, and analysis of plant remains. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how organic materials provide key information about past environments, human behavior, and cultural change through discussions of topics such as health and disease, inequality, and food.

SM 586. Desire and Demand. (M)

Diggs-Thompson. See course description for ANTH 086.

Does consumption shape culture or does culture shape consumption? As even the most mundane purchase becomes socially symbolic and culturally meaningful we can persuasively argue that the concept of "need" has been transformed. Analyzing a variety of physical and virtual consumer venues, the goal of this seminar is to understand and to analyze historical and contemporary issues related to a culture of consumption. We investigate social and political-economic factors that impact when and how people purchase goods and argue that behavior attached to consumption includes a nexus of influences that may change periodically in response to external factors. Readings and research assignments are interdisciplinary and require a critical analyses of global/local linkages. The city of Philadelphia becomes the seminar's laboratory as we ask how have issues of

culture, consumption, and global capitalism become intertwined around the world?

SM 587. (AFRC587, LALS588) Race, Nation, Empire. (B) Thomas.

This graduate seminar examines the dynamic relationships among empires, nations and states; colonial and post-colonial policies; and anti-colonial strategies within a changing global context. Using the rubrics of anthropology, history, cultural studies, and social theory, we will explore the intimacies of subject formation within imperial contexts- past and present-especially in relation to ideas about race and belonging. We will focus on how belonging and participation have been defined in particular locales, as well as how these notions have been socialized through a variety of institutional contexts. Finally, we will consider the relationships between popular culture and state formation, examining these as dialectical struggles for hegemony.

SM 600. Contemporary Archaeology in Theory. (C) Staff. First-year anthropology graduate students.

This graduate seminar addresses contemporary anthropological archaeology and considers the varied ways inferences are made about past and present human behavior from the archaeological record. It reviews such fundamental topics as the use of analogy, Middle Range theory, symbolism and meaning, social and cultural evolution, ideology and power, feminism and gender, and indigenous (non-Western) perspectives. It also foregrounds basic issues regarding heritage, looting, and ethics.

SM 602. EVOLUTIONARY ANTHROPOLOGY. (C) Schurr. First-year anthropology graduate students.

First-year anthropology graduate students. This course is an introduction to the study of human evolution through a survey of evidence from the various subfields of evolutionary anthropology. Special attention will be paid to current issues and problems in these subfields, and the different ways in which researchers are attempting to understand and uncover the details of human evolution. Among the areas of inquiry to be covered in this course are paleoanthropology, primatology, human biology, molecular anthropology, and evolutionary biology. Some specific issues to be explored will include the primate roots of human behavior, brain and language evolution, new fossil hominids, the origins of anatomically modern humans, and human biogenetic variation.

SM 603. Language in Culture and Society. (C) Agha. First-year anthropology graduate students.

First-year anthropology graduate students or Instructor Permission. Examination of properties of human language which enable social persons to interpret the cultural world and to act within it. Topics include: principles of lexical and grammatical organization; the role of language structure (grammar) and linguistic context (indexicality) in discursive activity; referential uses of language; social interaction; markers of social role, identity, and group-belonging; criteria by which models of linguistic form and function are formulated; the empirical limits within which different models have explanatory value.

SM 605. (COML605, FOLK605, MUSC605) Anthropology of Music. (C) Staff.

Theories and methods of the ethnomusicological approach to the study of music in culture, applied to selected western and non-western performance contexts.

607. (ANTH307) Contemporary Native Americans. (M) Bruchac.

This course examines the social and political lives of contemporary Native American Indians in the United States and Canada. Topics include: Indigenous identity; homelands and natural resources; popular culture and media; Indigenous arts and cultural expression; museum representations; athletics; gender relations; tribal recognition and sovereignty; and resistance movements. We will consider the origins of federal programs and legislation that have become essential to the protection of Native American freedoms. Students can expect to gain an appreciation of the complexity and cultural diversity of Native communities and tribal nations and insights into their interactions with other cultures over time.

SM 617. Contemporary Approaches to the Study of Culture and Society. (C) Petryna/Thomas. First-year anthropology graduate students.

A critical examination of recent history and theory in cultural and social anthropology. Topics include structural-functionalism; symbolic anthropology; post-modern theory. Emphasis is on major schools and trends in America, Britain, and France.

SM 618. Mediatized Culture in Contemporary Society. (M) Agha.

Prerequisite(s): ANTH 603 or permission from Instructor.

The course examines the role of mass media in organizing and disseminating cultural norms and values in contemporary society. Particular attention is given to two domains of organized social life, namely consumer behavior and public opinion. The course explores the ways in which mass media organize aspects of individual preference and taste, matters of identity and lifestyle, and the sense of belonging to a common culture. Issues of how individuals come to acquire common tastes and opinions, and attempt to vary upon them in defining their positional identities and stakes are central areas of concern. Material from a variety of present-day societies is discussed in comparative terms.

620. Directed Reading and Research. (C) Staff. May be repeated for credit.

To be arranged only by consultation with academic adviser and faculty member(s) to be involved; a proposed syllabus must be presented for approval, and written papers will be required without exception. On approval of these papers one copy must be presented to the Department of Anthropology office for filing.

621. Directed Field Training and Research. (C) Staff. May be repeated for credit.

To be arranged only by consultation with academic adviser and the faculty member(s) to be involved; a proposed syllabus must be presented for approval and written papers will be required without exception. On approval of these papers, one copy must be presented to the Department of Anthropology office for filing.

SM 622. Topics in Physical Anthropology. (M) Staff.

Humans are characterized by several distinctive life history features, e.g. large babies, late age at puberty and first reproduction, cessation of menstruation long before death, and a long life span. In addition, our reproductive decisions are heavily influenced by society and culture. This seminar will explore human life history from an evolutionary ecology and biocultural perspective, and will analyze the possible contributions of this approach to other disciplines such as demography, sociology, medicine, and public health. We will read and discuss seminal papers and recent developments on the topic.

SM 626. Medical Anthropology: Case Studies and Methods. (M) Petryna.

Prerequisite(s): Permission of instructor.

Intensive analysis of the application of anthropological theory and methodology to problems of human health and health care. Offered for students in the Medical Anthropology Program. Other qualified students may enroll with the permission of instructor.

SM 628. Language in Culture and Society: Special Topics. (M) Agha.

Prerequisite(s): ANTH 603 or Instructor Permission.

The course is devoted to a single research topic of contemporary interest in linguistic anthropology. Topics vary from year to year. Readings locate current debates in relation to longstanding assumptions in the literature and new directions in contemporary research.

SM 630. (ANTH103) Ceramics and Ceramic Analysis. (M) Zettler.

Introduction to ceramics, ceramic typology and analysis. Course will utilize largely work done on ancient Near Eastern ceramics, though it is not intended as an introduction to ancient Near Eastern ceramic sequences. Course is intended as a practical introduction for archaeologists to ceramics, the ways ceramics are collected and dealt with in the field, ceramic typology and "laboratory analyses". To provide depth, the course will cover both the ways ceramics have been dealt with in the past and current trends in the study of ceramics.

SM 631. Grammatical Categories. (M)

Agha. Prerequisite(s): ANTH 603 or Instructor Permission.

The course is an introduction to grammatical organization in human language for students in linguistic anthropology and associated fields. Primary foci: methods for the analysis of grammatical categories; constituency and propositional content; grammatical typology and universals. Other topics: relationship of grammatical categories to other principles organizing communication, conceptualization and interpersonal conduct; analysis of interlocking category systems; relationship of categories to actual human behavior. Students are encouraged to apply the techniques developed in lectures and assigned readings to the analysis of a non-Indo-European language over the course of the semester.

633. (ANTH230, CRIM230) Forensic Anthropology. (M) Monge.

This course will investigate and discuss the various techniques of analysis that biological anthropologists can apply to forensic cases. Topics include human osteology, the recovery of bodies, the analysis of life history, the reconstruction of causes of death, and various case studies where anthropologists have contributed significantly to solving forensic cases. Discussions will include the limitations of forensic anthropology and the application of DNA recovery to skeletal/mummified materials.

SM 634. (ANTH334, GSWS334, GSWS634) Feminist Ethnography. (M) Thomas.

This course will investigate the relationships among women, gender, sexuality, and anthropological research. We will begin by exploring the trajectory of research interest in women and gender, drawing first from the early work on gender and sex by anthropologists like Margaret Mead and Ruth Benedict; moving through the 1970s and 1980s arguments about gender, culture, and political economy; arriving at more current concerns with gender, race, sexuality, and empire. For the rest of the semester, we will critically read contemporary ethnographies addressing pressing issues such as nationalism, militarism, neoliberalism and fundamentalism. Throughout, we will investigate what it means not only to "write women's worlds", but also to analyze broader socio-cultural, political, and economic processes through a gendered lens. We will, finally, address the various ways feminist anthropology fundamentally challenged the discipline's epistemological certainties, as well as how it continues to transform our understanding of the foundations of the modern world.

636. (ANTH236, NELC241) Mesopotamia: Heartland of Cities and Empires. (M) Zettler.

This course surveys the cultural traditions of ancient Mesopotamia, the land between the Tigris and Euphrates Rivers, a region commonly dubbed "cradle of civilization" or "heartland of cities," from an archaeological perspective. It will investigate the emergence of sedentism and agriculture; early villages and increasingly complex Neolithic and Chalcolithic cultures; the evolution of urban, literate societies in the late 4th millennium; the city-states and incipient supra-regional polities of the third and second millennium; the gradual emergence of the Assyrian and Babylonian "world empires," well-known

from historical books of the Bible, in the first millennium; and the cultural mix of Mesopotamia under the successive domination of Greeks, Persians and Arabs. The course seeks to foster an appreciation of the rich cultural heritage of ancient Mesopotamia, an understanding of cultural continuities in the Middle East and a sense of the ancient Near Eastern underpinnings of western civilization.

SM 640. (AFRC640, COMM740) Race, Diaspora & Critique. (M) Thomas.

This course will attempt to engage students in an interdisciplinary conversation about the epistemological, methodological, and political interventions framing/grounding/informing Africana Studies as a scholarly endeavor. Students will be asked to consider the context and content of this evolving field/discipline, examining the ideological and intellectual issues that drive debates within (and critiques of) African-American/Africana Studies (indeed, the very difference in such designations bespeaks important demographic and ideological shifts within the academy and beyond). Students will be introduced to some of the major historical and contemporary literatures in Africana Studies across the humanities and social sciences, emphasizing "diaspora" as a guiding construct and organizing principle. Class discussions will be aimed at expanding students' knowledge of the sources available for research in Africana Studies - with an eye toward guiding their preparation for future scholarly research informed by the questions and critical conceptualizations emerging from Africana Studies.

SM 643. Globalization And Its Historical Significance. (M) Spooner.

Globalization is one of the most comprehensive topics of our time, and also one of the most controversial. This course assesses the current state of globalization, considering it in terms of economic, political, and cultural change, and follows its progress through the semester. The class will be led through the main topics and debates, introduced to conceptual and empirical tools for framing academic discussion and research about its dynamics, how and when it began, and (most particularly) how it differs from earlier episodes of historical change. Students will monitor the course of globalization in the course of the semester, take an exam on the readings and lectures, and develop their own research project on a related issue of their choice.

SM 649. (ANTH246) Molecular Anthropology. (C) Schurr.

This course explores the molecular revolution in biological anthropology, and in particular, examines the nature and theory of collecting molecular data to address anthropological questions concerning human origins, evolution and biological variation. Students will review the methods used to analyze molecular genetic data, and learn to draw evolutionary and phylogenetic conclusions from this information.

654. (ANTH100, NELC281, NELC681, SAST161) Topics In Anthropology and the Modern World. (A) Spooner.

This course relates anthropological models and methods to current problems in the Modern World. The overall objective is to show how the research findings and analytical concepts of anthropology may be used to illuminate and explain events as they have unfolded in the recent news and in the course of the semester. Each edition of the course will focus on a particular country or region that has been in the news.

SM 655. Methods and Grantwriting for Anthropological Research. (M) Thomas.

This course is designed for third- and fourth-year graduate students in anthropology who are working on their dissertation research proposals and submitting grants. Graduate students from other departments who will be submitting grant proposals that include an ethnographic component are also welcome. Students will develop their proposals throughout the course of the semester, and will meet important fall submission deadlines. They will begin by working with various databases to search funding sources relevant to the research they plan to conduct. In class sessions, they will also work with the professor and their peers to refine their research questions, their methods, the relationship of any previous research to their dissertation fieldwork, and the broader theoretical and "real-world" significance of their proposed projects. Finally, students will also have the opportunity to have live "chats" with representatives from funding agencies, thereby gaining a better sense of what particular foundations are looking for in a proposal.

SM 658. Discourse Analysis. (C) Agha. Prerequisite(s): ANTH 603.

Examination of current theories and methods in the study of discourse, including verbal and non-verbal communication. Each student conducts an

ethnographic or historical study of a discursive practice, culminating in a class presentation and term paper. The first half of the course focuses on the study of discursive interaction in small scale face to face encounters between individuals, including methods of data collection, transcription, and analysis. The second half takes up public discourses which involve many social actors, are linked to widespread social practices, and result in the coordination of large-scale patterns of action, belief, and value in society.

SM 662. Social Reorganization: Tribes, Communities & Corporations. (M) Spooner.

A wide variety of ethnographic and sociological examples of formal and informal organization will be described and analyzed within the framework of the emerging modern awareness of the possibility of organizing and reorganizing society and social groups for specific short- and long-term objectives.

667. (ANTH341) Topics In Psychology & Culture. (C) Urban.

Our task in this course is to examine some of the ways in which people develop and deploy their identities under the conditions of a rapidly changing world. This task is part of a life-long process, or journey, which begins in one's family of origin and is shaped by the cultural life plan while growing up. Features of the life plan involve creative reflection, taking risks, learning from errors and failures, assessing one's feelings, revising one's operating knowledge, altering one's goals and taking the next steps forward. Life stories then become the repository of one's steps along the way, sometimes challenged by experiences in extreme situations and at other times facilitated by the rituals of our lives. Fulfillment becomes a product of the process of appraisal and of the means of coping with the exigencies of life, including its culmination and ending.

SM 695. Current Topics in Molecular Anthropology. (M) Schurr.

An examination of the nature and theory of collecting molecular data to address biological anthropological questions concerning human origins, evolution and biological variation. Students will review the methods used to analyze molecular genetic data, and learn to draw evolutionary and phylogenetic conclusions from information.

SM 701. (AFRC701, AFST701, HIST701) African Studies Seminar. (M) Staff.

Interdisciplinary seminar for discussion of issues of special interest to graduate students and faculty in African Studies. Topics vary according to the interests and expertise of instructors.

704. (EDUC706, FOLK706, URBS706) Culture/Power/Identities. (A) Hall.

The seminar provides a forum for critically examining the interrelationships between culture, power, and identities, or forms of difference and relations of inequality. The central aim is to provide students with an introduction to classic and more recent social theories concerning the bases of social inequality and relations shaped by race, class, ethnic, national and gender differences. Theories discussed in the course provide analytic tools for examining the role of social institutions such as education for mediating social hierarchy and difference. The class will have a seminar format emphasizing close analysis and discussion of the required readings in relation to a set of overarching questions concerning the nature of power, forms of social inequality and the politics of identity and difference.

SM 705. (AFRC705, AFST705, FOLK715, GSW5705, MUSC705) Seminar in Ethnomusicology. (M) Staff. Open to graduate students in all departments.

Seminar on selected topics in ethnomusicology.

707. (EDUC700) Advanced Ethnographic Design. (B) Hall.

This course is designed to follow after Introduction to Qualitative and Ethnographic Methods (EDUC 672). In the introductory course, students learned how to use qualitative methods in conducting a brief field study. This advanced level course focuses on research design and specifically the craft of ethnographic research. Students will apply what they learn in the course in writing a proposal for a dissertation research project.

SM 709. Current Research in Paleoanthropology. (C) Dibble.

An intensive review of the major topics relating to Pleistocene human evolution, focusing on the integration of data from both biology and archeology.

SM 710. Readings and Research in Social Organization. (M) Spooner.

Study and analysis of selected problems in social organization.

SM 715. Globalization Seminar. (M) Spooner.

Weekly seminar discussions will focus on current news and opinion about social and cultural change that may be interpreted as globalization in different parts of the world. The overall objective is to develop methodological and theoretical approaches to the study of globalization. Students taking the course for credit will be required to write a research paper.

SM 717. Cultural Motion Seminar. (C) Urban.

This is a graduate seminar/workshop for students pursuing research in anthropology at any phase - from preliminary readings, to proposal writing, to dissertation write-up - that deals in some way with cultural motion. Students will be expected to present their own work, and to discuss the work of others, throughout the course of the seminar. The course is appropriate for first or second year graduate students in Anthropology seeking to define a research area or already pursuing research. It is also appropriate for third and fourth year students in the proposal-writing phase. And, finally, the seminar will provide a forum for dissertation-writing students interested in receiving preliminary feedback on their work from peers.

SM 719. (ANTH219) Archaeology Field Project. (A) Schuyler. Permission of instructor required.

This is a parallel course to Anthropology 219, but on the graduate level. It will only be open to select graduate students (i.e. historical archaeology students and some CGS MA students). Specific permission of the instructor is required in each case.

720. (ANTH220) Archaeology Laboratory Field Project. (B) Schuyler.

Follow-up for Anthropology 719 and parallel course to Anthropology 220. Class will meet in three hour sections on Fridays and Saturdays and will involve the analysis of artifacts, documentary records, oral historic sources and period illustrations collected on Southern New Jersey historic sites that Fall. No previous archaeological or lab experience is required. (Robert L. Schuyler: schuyler@sas.upenn.edu; (215) 898-6965; UMuseum 412). Course may be repeated for credit.

SM 723. (AAMW723, ARTH723) Topics in the Art of the Ancient Near East. (M) Pittman.

Topic Varies.

SM 727. Archaeology of Latin America Seminar. (M) Staff.

Prerequisite(s): ANTH 468 or ANTH 600.

Advanced seminar for students wishing to pursue study of field data, method, & theoretical problems in the archaeology of Latin America.

SM 730. Readings & Research In Linguistic Anthropology. (D) Agha.

Prerequisite(s): ANTH 603 OR INSTRUCTORS PERMISSION.

The course is designed for students and faculty interested in discussing current research and/or research topics in any area of linguistic or semiotic anthropology. The primary intent of the course is to familiarize students with the literature on selected research topics and to develop their own research agendas in the light of the literature. Students may enroll on an S/U basis for 0.5 CU per semester. The course may be repeated for credit up to 4 times.

747. (ANTH247) Archaeology Laboratory Field Project-Summer. (L) Schuyler.

This course is a summer version of Anth 720 (see that course for full description). In summer more emphasis will be placed on field visitations. Course open to all graduate students; no instructor permission needed. Course may be repeated for credit and students may take both anth 747 and 720. Questions: contact Robert L Schuyler; schuyler@sas.upen.edu; (215) 898-6965; Univ Museum 412/6398.

SM 750. (ANTH450) African American Archaeology. (M) Schuyler.

This course will cover the new and productive field of the archaeology of African Americans from the 17th to the 20th centuries. The focus will be on continental North America but some attention will also be given to West Africa (AD 1500 - present) and the West Indies. No background (or previous courses) in archaeology or anthropology is required.

SM 751. (ANTH451) Historical Archaeology. (M) Schuyler. May be repeated for credit.

General background reading and tutorial preparation in the archaeology of the modern world (A.D. 1400- 20th Century).

SM 752. (ANTH151) Perspectives on the Evolution of Human Behavior. (M) Staff. Prerequisite(s): ANTH 602 or Instructor permission.

This seminar will consider the evolution of cognitive skills from a variety of perspectives. One focus will be on hominid anatomical evolution, particularly those aspects relevant to the evolution of human behavior (e.g., neuroanatomy). Another focus will be on non-human primate behavior. We will also consider the archaeological evidence left by Pleistocene humans that may be relevant to this question. The goal of the seminar will be to integrate research from many fields of inquiry in order to gain a better understanding of the human condition.

SM 756. Social Anthropology Seminar. (G) Spooner.

Weekly seminar discussions will be devoted to the analysis and evaluation of the social anthropology thread or threads in the history of anthropology, and their relevance to the positions and interests of cultural anthropology today. Students taking the course for credit will be required to write a research paper.

SM 757. (ANTH457) Themes In Historical Archaeology. (A) Schuyler.

Course will examine research by historical archaeologists on the basic attributes of humanity. Elements that are more biologically grounded (age, gender, race) and elements more purely cultural (ethnicity, class, occupation, nationality, religion) will both be surveyed. Recent field findings and theoretical debates will be covered.

SM 842. (CIMS842, COMM842) The Filmic. (M) Jackson.

This interdisciplinary graduate course takes "film" as its object of study, theorizing it as a medium/mode of representation. We draw on film theory, psychoanalysis, literary analysis, cognitive theory, communication studies, and visual anthropology to discuss several key issues related to the state of film/filmmaking in an age of "digital" media. We interrogate contentious notions of authority, reflexivity, and objectivity. We analyze film's claim to "realistic" (iconic and indexical) representation. We interrogate how "film" and "video" get imagined in all their visual particularity, sometimes conflated into a single visual form and at other moments distinguished as a function of the difference between photochemical and electro-magnetic processes. We also highlight the kinds of techniques filmmakers use to thematize these same

issues "on screen." Students will be responsible for watching one film each week (along with the course readings), and

part of the final project involves helping to produce a group documentary/ethnographic

"film" that engages the course's central concerns.

APPLIED MATHEMATICS & COMPUTATIONAL SCI. (AS) {AMCS}

510. (MATH410) Complex Analysis.

L/L 514. (MATH314, MATH514) ADVANCED LINEAR ALGEBRA.

520. (MATH420) Ordinary Differential Equations.

525. (MATH425) Partial Dif Equations.

530. (MATH430) Intro to Probability.

532. (MATH432) Game Theory.

567. (BE 567) Mathematical and Computational Modeling of Biological Systems. (M) Prerequisite(s): BE 324 and BE 350.

This is an introductory course in mathematical biology. The emphasis will be on the use of mathematical and computational tools for modeling physical phenomena which arise in the study of biological systems. Possible topics include random walk models of polymers, membrane elasticity, electrodiffusion and excitable systems, single-molecule kinetics, and stochastic models of biochemical networks.

599. Independent Study.

602. Algebraic Techniques for Applied Mathematics and Computational Science, I. (M) Staff.

We turn to linear algebra and the structural properties of linear systems of equations

relevant to their numerical solution. In this context we introduce eigenvalues and the spectral theory of matrices. Methods appropriate to the numerical solution of very large systems are discussed. We discuss modern techniques using randomized algorithms for fast matrix-vector multiplication, and fast direct solvers. Topics covered include the classical Fast Multipole Method, the interpolative decomposition, structured matrix algebra, randomized methods for low-rank approximation, and fast direct solvers for sparse matrices. These techniques are of central importance in applications of linear algebra to the numerical solution of PDE, and in Machine Learning. The theoretical content of this course is illustrated and supplemented throughout the year with substantial computational examples and assignments.

603. ALGEBRAIC TECHNIQUES II. (M) Staff.

We begin with an introduction to group theory. The emphasis is on groups as symmetries and transformations of space. After an introduction to abstract groups, we turn our attention to compact Lie groups, in particular $SO(3)$, and their representations. We explore the connections between orthogonal polynomials, classical transcendental functions and group representations. This unit is completed with a discussion of finite groups and their applications in coding theory.

608. (MATH608) Analysis. (M) Staff. Prerequisite(s): Math 508-509.

Complex analysis: analyticity, Cauchy theory, meromorphic functions, isolated singularities, analytic continuation, Runge's

theorem, d-bar equation, Mittag-Leffler theorem, harmonic and sub-harmonic functions, Riemann mapping theorem, Fourier transform from the analytic perspective. Introduction to Real Analysis: Weierstrass approximation, Lebesgue measure and integration Euclidean spaces, Borel measures and convergence theorems, C^0 and the Riesz-Markov theorem, L^p -spaces, Fubini's Theorem.

609. (MATH609) Analysis. (M) Staff. Prerequisite(s): Math 608 or permission of the instructor.

Real analysis continued: general measure theory, outer measures and Cartheodory construction, Hausdorff measures, Radon-Nikodym theorem, the general Fubini theorem. Functional Analysis: Hilbert space and L^2 -theory of the Fourier transform, normed linear spaces, convexity, the Hahn-Banach theorem, duality for Banach spaces, weak convergence, bounded linear operators, Baire category theorem, uniform boundedness principle, open mapping theorem, closed graph theorem, compact operators, Fredholm theory, interpolation theorems, L^p -theory for the Fourier transform, functional calculus and spectral theory.

637. (MEAM637, MSE 637) MESOSCALE MODEL AND SIM.

701. (MATH582) Topics in Applied Math.

990. Masters Reg Tuition.

999. Independent Study & Research.

ARCHITECTURE (FA) {ARCH}

SM 732. Advanced Enclosures: Tectonics, Techniques and Materials. (B) Berman.

Details should be considered in the traditional sense, as assemblages of constituent parts. Not as a mere collection of elements or specified systems; rather as an "assemblage", the act of assembling under a guiding principle, the relationship to a whole. Frascari defines the detail as the union of construction - having the dual role of ruling both the construction and construing of architecture. This obligation of the relationship of the parts to the whole and the whole to the parts is the essence of the revelatory detail in service of the architecture. This seminar seeks to expand a framework of understanding enclosures as integral to the student's architectural intentions. We will seek to move beneath the numerical facts of what is accepted as facade design (criteria, codes, loads, forces and consumptions) to seek a deeper understanding of the generative process underlying these physical criteria in order to evade the mere acceptance of these external facts to the intentions of the Architect. The nature of enclosures will be explored through methods of analysis and interrogation of materials, their attributes, their forms of assembly and the natures of their manufacture. The vehicle for this interrogation will be the act of drawing and assembling. Case studies of new materials, new processes and new

applications will provide the basis gaining this dissecting / cutting ability (Frascari). In addition the students will engage in generative detailing exercises, at simultaneous scales, to analyze and apply these decontextualized results to reveal their nature manifest in facade.

SM 737. Semi-Fictitious Realms. (A) McAdams, Christopher.

The pursuit of immersive digital experiences has long been a goal of the computing industry. Early wearable displays designed in the 1960s depicted simple three dimensional graphics in ways that had never been seen before. Through trial and error, digital pioneers reframed the relationship between user and machine, and over the last five decades, have made strides that advanced both the input and output mechanisms we are so comfortable with today. As a field, architecture has been reliant on these advancements to design and document buildings, but these tools still leave the architect removed from the physicality of the design, with their

work depicted as 2D lines or 3D planes alone. This course will study the evolutionary advancements made that now allow us to fully inhabit digital worlds through Virtual Reality. Using the HTC Vive and Unreal Engine, students will generate immersive, photorealistic models of unbuilt architectural works and explore digital/physical interactivity. From the terraces of Paul Rudolph's Lower Manhattan Expressway to Boullée's Cenotaph for Newton, the goal of this course is to breathe new life into places and spaces that have, until this time, never been built or occupied.

UNDERGRADUATE COURSES

Freshman Seminar

SM 111. Architecture in the Anthropocene. (A) Barber.

This course will use architecture and the built environment as a lens to investigate the emerging field of the environmental humanities. Our goal will be to analyze and understand these new intellectual frameworks in order to consider the relationship between global environmental challenges and the process of constructing the built environment. As such, we will oscillate between social and political theory, environmental history, and architectural history and theory. Issues of importance will include: theories of risk, the role of nature in political conflicts; images, design and environmental communication; and the relationship between speculative design and other narratives of the future. These conceptual frameworks will be read alongside examples of related creative projects in art, literature, and architecture, and will be amplified through presentations and discussions with studio faculty and other visitors to the course.

SM 112. Villa Gardens and Villa Life. (B) Giannetto.

This seminar will study the idea of villeggiatura (villa life) and the ideology associated with countryside gardens and plantations. In an examination of the circularity of villa ideology across the centuries, other themes will emerge that address the relationship between urban and rural life, between architecture and natural environment and between social, cultural, economic, and political forces and landscape design. These themes will be explored through the study of selected villas and through the reading of sources drawn from villa literature, including architectural and agricultural treatises, epistolary exchanges, and drawings.

Design Studios

L/R 102. Introduction to Design. (B) Faculty.

An exploration of the design process utilizing drawing and model-making techniques. Skills of representation and fabrication are introduced in the context of the development of each student's capacity to observe, interpret, and translate design concepts into physical form. The course includes a weekly lecture and a biweekly studio component.

201. Design Fundamentals I. (A) Faculty. Prerequisite(s): ARCH 102.

This studio course develops drawing and model-making skills with emphasis on digital representation and digital fabrication. The capacity of nature-inspired design is explored as a foundation for the creative production of new forms of expression.

202. Design Fundamentals II. (B) Faculty. Prerequisite(s): ARCH 201.

A studio course exploring the relationship between two-dimensional images and three-dimensional digital and physical models. This studio course develops advanced techniques in digital representation and fabrication through an investigation of the theme of inhabitation in architecture.

301. Design I. (A) Faculty. Prerequisite(s): ARCH 202.

An introduction to the design of architecture in the city. Students explore the relationships between two-dimensional patterns and their corresponding three-dimensional interpretations through the orthographic drawings of plan, section, and elevation and three-dimensional digital and physical models.

302. Design II. (B) Faculty. Prerequisite(s): ARCH 301. Corequisite(s): ARCH 312.

An introduction to the design of architecture in the landscape. Issues of mapping, placement, scale, and construction are explored through studio design projects, site visits, and discussions. Course work focuses on the preparation and presentation of design projects emphasizing analytical skills along with the development of imaginative invention and judgment.

401. Advanced Design. (A) Faculty. Prerequisite(s): ARCH 302. Corequisite(s): ARCH 411.

Content and technique are explored in this studio course through the vehicle of a

design project focused on the development of a critical understanding of geometries and mathematics in the representation and fabrication of contemporary architecture.

Theory Courses

L/R 312. Topics in Theory I. (B)

Faculty. Corequisite(s): ARCH 302.

This course examines the development of modern architecture in the early-twentieth century. Case studies and selected texts are used to explore how modern architecture responded to the challenges of the Industrial Revolution and social modernization.

L/R 411. Topics in Theory II. (A)

Faculty. Prerequisite(s): ARCH 312. Corequisite(s): ARCH 401.

This course examines the development of geometries in modern architecture. Primary and secondary texts are used to explore the origin and evolution of geometrical thinking in architecture.

Technology Courses

431. (ARCH531) Construction I. (A)

Faculty.

Course explores basic principles and concepts of architectural technology and describes the interrelated nature of structure, construction and environmental systems. Open to Intensive Majors only.

432. (ARCH532) Construction II. (B)

Faculty. Prerequisite(s): ARCH 431.

A continuation of Construction I, focusing on light and heavy steel frame construction, concrete construction, light and heavyweight cladding systems and systems building. Open to Intensive Majors only.

433. (ARCH533) Environmental Systems I. (A) Faculty.

An introduction to the influence of thermal and luminous phenomenon in the history and practice of architecture. Issues of climate, health and environmental sustainability are explored as they relate to architecture in its natural context. The classes include lectures, site visits and field exploration. Open to Intensive Majors only.

434. (ARCH534) Environmental Systems II. (B) Faculty. Prerequisite(s): ARCH 433.

This course examines the environmental technologies of larger buildings, including heating, ventilating, air conditioning, lighting, and acoustics. Modern buildings are characterized by the use of such

complex systems that not only have their own characteristics, but interact dynamically with one another and with the building skin and occupants. Questions about building size, shape, and construction become much more complex with the introduction of sophisticated feedback and control systems that radically alter their environmental behavior and resource consumption. Class meetings are divided between slide lectures, demonstrations, and site visits. Course work includes in-class exercises, homework assignments, and a comprehensive environmental assessment of a room in a building on campus. Open to Intensive Majors only.

L/L 435. (ARCH535) Structures I. (A)

Faculty.

Theory applied toward structural form. A review of one-dimensional structural elements; a study of arches, slabs and plates, curved surface structures, lateral and dynamic loads; survey of current and future structural technology. The course comprises both lectures and a weekly laboratory in which various structural elements, systems, materials and technical principles are explored. Open to Intensive Majors only.

L/L 436. (ARCH536) Structures II. (B)

Faculty. Prerequisite(s): ARCH 435.

A continuation of the equilibrium analysis of structures covered in Structures I. The study of static and hyperstatic systems and design of their elements. Flexural theory, elastic and plastic. Design for combined stresses; prestressing. The study of graphic statics and the design of trusses. The course comprises both lectures and a weekly laboratory in which various structural elements, systems, materials and technical principles are explored. Open to Intensive Design majors only.

SM 437. Parametric Modeling and Construction I. (A) Morgan.

An introduction to the principles of construction using Building Information Modeling (BIM), a process involving the generation and manipulation of digital representations of building components defined as parameters in relation to other components. The course will explore the performance of building materials and methods of on-site and off-site assembly in load-bearing masonry structures and heavy and light wood frame construction. Topics include sustainable construction, emerging and engineered materials, and integrated building practices.

Other Courses

303. (IPD 503) Integrated Product Design Fundamentals. (L) Wesley.

The creation of a successful product requires the integration of design, engineering, and marketing. The purpose of this intensive studio course is to introduce basic concepts in the design of three-dimensional products. For purposes of the course, design is understood as a creative act of synthesis expressed through various modes of 2-dimensional and 3-dimensional representation. The course develops basic design skills ranging from hand sketching to the use of digital modeling software and rapid prototyping. Fulfills the requirement for a design background course in the interdisciplinary graduate program in Integrated Product Design (IPD).

SM 311. (ITAL311) Venice: Self-Representation, Performance, and Reception. Finotti and Fabiani Giannetto.

This course focuses on the city of Venice and its elusive identity as represented in written, visual and built form. Structured as a series of topics and case studies (including primary visual and written sources; buildings and gardens) the course aims to introduce students to the material and cultural landscape of Venice and develop their ability to "read" the urban fabric and its unique physical context by identifying its various features and explaining the political, social, economic and cultural agendas that brought them into existence. The course includes visits to Venice, Van Pelt Library and the Philadelphia Museum of Art.

490. Independent Study. (C) Faculty. Permission of the Undergraduate Chair.

492. Senior Thesis. (B) Faculty. Prerequisite(s): ARCH 301. Permission of the Undergraduate Chair.

498. Senior Honors Thesis. (B) Faculty. Prerequisite(s): ARCH 401. Permission of the Undergraduate Chair.

GRADUATE COURSES

Summer Institutes

500. Summer Preparatory Design Studio. (L) Mitnick.

The Summer Preparatory Studio offers an intensive drawing and design experience to candidates for admission to the Graduate Program in Architecture who have not completed the necessary design studio prerequisites or who are required to have

additional design experience to qualify for matriculation into the Master of Architecture Professional Degree Program in September. Enrollment in this program does not count towards the Master of Architecture degree. The intent of the drawing component of the course is to familiarize the student with primarily black and white mediums (pencil, charcoal, ink, etc). Exercises are designed to sharpen the student's ability to see selectively and to transform image to paper through both line and tonal renditions in freehand sketch form. Exercises will also familiarize the student with basic drafting skills necessary for architectural communication and provide an introduction to computer-aided design through applications of the intensive Rhino and Illustrator tutorials given in the Digital Navigation course. The design part of the course presents a rhythm of basic three-dimensional design studies and simple architectural studio investigations.

These are intended to build fundamental skills and acquaint the student with the architectural issues of form/space, conceptualization, transformation of scale, simple functional and constructional problems and a sensitivity to context. Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.

791. ARCH Summer Institute: Digiblast I: Fundamentals of 3D Modeling. (L) Blasetti and Willems.

This is a non-credit course for entering Master of Architecture students. The course will cover digital modeling and workflow and will prepare students for techniques used in PennDesign's 500 and 600 level design studios. Course fee: \$550.00. Note: course fees applies only to students who are NOT enrolled in ARCH-500, in addition to ARCH-791. Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.

792. ARCH Summer Institute: Digiblast II: 3d Modeling and Fabrication. (L) Blasetti and Willems.

This is a non-credit course for entering Master of Architecture students. The course will cover digital modeling and workflow. The course will prepare students for techniques used in PennDesign's 500 and 600 level design studios. Course fee: \$550.00. Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.

793. ARCH Summer Institute: History of Architecture. (L) Faculty.

This is a non-credit course for entering Master of Architecture students. The course will cover western architecture from ancient Egypt to the modern age and will satisfy the history pre-requisite condition for matriculation in the fall. Course fee: \$750.00. Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.

794. ARCH Summer Institute: Physics for Architects. (L) Farley.

This is a non-credit course for entering Master of Architecture students. The course will cover the following: mechanics, heat, light, sound and electricity. The course will satisfy the physics pre-requisite condition for matriculation in the fall. Course fee: \$750.00 Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.

795. ARCH Summer Institute: Advanced Architectural Design Digital Workshop. (L) Blasetti and Willems.

This is a non-credit course for entering Master of Science in Design: Advanced Architectural Design students. The Digital Methods workshop provides a comprehensive introduction to four elements critical to the workflow of the graduate studios at PennDesign: 3D modeling, scripting, visualization and fabrication. Short daily lectures situating digital technologies in contemporary design practice are followed by hands-on tutorials in Maya and Rhinoceros. The first half of the workshop provides an operative knowledge of the many geometry types, modeling techniques, scripting languages and simulation tools available for studio work. Visualization techniques are also introduced, and students will learn to efficiently produce presentation-quality renderings, animations and technical line drawings from digital models. Students also learn protocols transferring data between various design software packages and how to create data compatible with PennDesign's digital fabrication equipment. Course fee: \$400.00 Course enrollment is by permit only. Please contact Sarah Lam (ARCH Dept.) at sarahlam@design.upenn.edu.

Design Studios

501. Design Studio I. (A) Saunders and Faculty. Corequisite(s): ARCH 521.

An introductory architectural design studio through which students develop critical,

analytical and speculative design abilities in architecture. Students develop representational techniques for the analysis of social and cultural constructs, and formulate propositions for situating built form in the arena of the urban and suburban environment. The studio initiates innovation through a sequence of projects, spatial models and rule sets that introduce each student to rule-based design processes-- in which a reversal of expectations leads to the creation of novel spaces and structures. It introduces computation, geometric techniques, and digital fabrication. Projects explore the formation of space in relation to the body, and the developments of small scale public programs.

502. Design Studio II. (B) Fierro and Faculty. Corequisite(s): ARCH 522.

This studio explores urban architecture as an embodiment of cultural values. Siting, enclosure of space and tectonic definition are stressed in order to challenge students to project relevant and inventive architectural situations.

601. Design Studio III. (A) Jamelle and Faculty. Corequisite(s): ARCH 621.

In this studio, students engage architecture in its role as a cultural agent and examine the way buildings establish and organize dynamic relationships between site, program and material. The design of a complex building of approximately 50,000 SF provides the pedagogical focus for this research. Students extend skills in geometrical organization, site analysis and building massing/orientation to relate to program organization, circulation and egress, building systems and materials. The conceptual focus centered on the program of dwelling and how this program can be employed to develop and promote dynamic relationships and conditions through time, both within the building and between the building and the context. Through research and experimentation students integrate ecological processes into their design methodology to support design innovations in the building's structure, its construction assemblies, environmental systems, and materials. Students work towards a high level of design resolution and visual representation, including the articulation of the building structure and its material assembly/enclosure.

602. Design Studio IV. (B) Kolatan and Faculty.

This studio enables students to develop and resolve the design of a building in terms of program, organization, construction and the integration of structures, enclosure and

environmental systems as well as life safety issues. Students select from a range of individually-directed studios within this overall framework. Each instructor develops a different approach and project for their section of this studio. Studios incorporate the expertise of external consultants in advanced areas of technology, engineering and manufacturing.

701. (LARP701) Design Studio V. (C) Rahim and Faculty.

A set of Advanced Architectural Design studios are offered from which students select through a lottery. Topics and sites vary by instructor.

702. Design Studio VI. (B) Rahim and Faculty.

In the final semester of the program, students select from three options: ARCH 702, an advanced design studio, ARCH 704, a research studio, the exploration of a topic or theme established by an individual faculty member or group of faculty members; or ARCH 706, an independent design thesis, the exploration of a topic or theme under the supervision of a thesis advisor.

704. Advanced Design:Research Studio. (B) Faculty.

In the final semester of the program, students select from three options: 1) An elective design studio, selected from among the advanced architectural design studios offered by the Department of Architecture; 2) a research studio, the exploration of a topic or theme established by an individual faculty member or group of faculty members; or 3) an independent thesis, the exploration of a topic or theme under the supervision of a thesis advisor.

Master of Architecture - Core

L/R 511. History and Theory I. (A) Faculty.

The first of three required courses in the history and theory of architecture, this is a lecture course with discussion groups that meet weekly with teaching assistants. The course explores fundamental ideas and models of architecture that have emerged over the past three hundred years.

L/R 512. History and Theory II. (B) Barber.

This course traces the emergence of contemporary issues in the field by exploring the architecture of the twentieth century. Buildings, projects, and texts are situated within the historical constellations of ideas, values, and technologies that

inform them through a series of close readings. Rather than presenting a parade of movements or individuals, the class introduces topics as overlaying strata, with each new issue adding greater complexity even as previous layers retain their significance. Of particular interest for the course is the relationship between architecture and the organizational regimes of modernity.

521. Visual Studies I. (A) Willems. Corequisite(s): Arch 501.

The study of analysis and projection through drawing and computer visualization

522. Visual Studies II. (B) Willems. Corequisite(s): ARCH 502.

A continuation of the study of analysis and projection through drawing and computer visualization.

531. (ARCH431) Construction I. (A) Trubiano.

Lecture course exploring the basic principles of architectural technology and building construction. The course is focused on building material, methods of on-site and off-site preparation, material assemblies, and the performance of materials. Topics discussed include load bearing masonry structures of small to medium size (typical row house construction), heavy and light wood frame construction, sustainable construction practices, emerging + engineered materials, and integrated building practices. The course also introduces students to Building Information Modeling (BIM) via the production of construction documents.

532. (ARCH432) Construction II. (B) Ryan.

A continuation of Construction I, focusing on light and heavy steel frame construction, concrete construction, light and heavyweight cladding systems and systems building.

533. (ARCH433) Environmental Systems I. (A) Diemer.

An introduction to the influence of thermal and luminous phenomenon in the history and practice of architecture. Issues of climate, health and environmental sustainability are explored as they relate to architecture in its natural context. The classes include lectures, site visits and field exploration.

534. (ARCH434) Environmental Systems II. (B) Braham.

This course examines the environmental technologies of larger buildings, including

heating, ventilating, air conditioning, lighting, and acoustics. Modern buildings are characterized by the use of such complex systems that not only have their own characteristics, but interact dynamically with one another and with the building skin and occupants. Questions about building size, shape, and construction become much more complex with the introduction of sophisticated feedback and control systems that radically alter their environmental behavior and resource consumption. Class meetings are divided between slide lectures, demonstrations, and site visits. Course work includes in-class exercises, homework assignments, and a comprehensive environmental assessment of a room in a building on campus.

L/L 535. (ARCH435) Structures I. (A) Farley. Corequisite(s): Arch 535.

Theory applied toward structural form. A review of one-dimensional structural elements; a study of arches, slabs and plates, curved surface structures, lateral and dynamic loads; survey of current and future structural technology. The course comprises both lectures and a weekly laboratory in which various structural elements, systems, materials and technical principles are explored.

L/L 536. (ARCH436) Structures II. (B) Farley. Corequisite(s): Arch 536.

A continuation of the equilibrium analysis of structures covered in Structures I. The study of static and hyperstatic systems and design of their elements. Flexural theory, elastic and plastic. Design for combined stresses; prestressing. The study of graphic statics and the design of trusses. The course comprises both lectures and a weekly laboratory in which various structural elements, systems, materials and technical principles are explored.

L/R 611. History and Theory III. (A) Barber.

This is the third and final required course in the history and theory of architecture. It is a lecture course that examines selected topics, figures, projects, and theories from the history of architecture and related design fields during the 20th century. The course also draws on related and parallel historical material from other disciplines and arts, placing architecture into a broader socio-cultural-political-technological context. Seminars with teaching assistants complement the lectures.

621. Visual Studies III. (A) Hume. Corequisite(s): Arch 601.

The final of the Visual Studies half-credit courses. Drawings are explored as visual

repositories of data from which information can be gleaned, geometries tested, designs refined and transmitted. Salient strengths of various digital media programs are identified and developed through assignments that address the specific intentions and challenges of the design studio project.

631. Technology Case Studies I. (A) Ryan.

A study of the active integration of various building systems in exemplary architectural projects. To deepen students' understanding of the process of building, the course compares the process of design and construction in buildings of similar type. The course brings forward the nature of the relationship between architectural design and engineering systems, and highlights the crucial communication skills required by both the architect and the engineer.

SM 632. Technology Designated Elective. (B) Faculty. Please note: MSD-AAD students in their first semester are not permitted to enroll in any ARCH-632 courses.

Several sections are offered from which students make a selection. This year's selections include: Deployable Structures, Performance and Design, Detailed Design Studies, Daylighting, Principles of Digi/Fab, Matter and Energy, Material and Structural Intelligence.

SM 638. Technology Special Topics. (B) Faculty.

Several sections are offered from which students make a selection such as: Building Acoustics; Building Envelopes; Building Systems; Lighting and Component Design.

671. Professional Practice I. (A) Ryan.

The course consists of a series of workshops that introduce students to a diverse range of practices. The course goal is to gain an understanding of the profession by using the project process as a framework. The course comprises a survey of the architectural profession - its licensing and legal requirements; its evolving types of practice, fees and compensation; its adherence to the constraints of codes and regulatory agencies, client desires and budgets; and its place among competing and allied professions and financial interests. The workshops are a critical forum for discussion to understand the forces which at times both impede and encourage innovation and leadership. Students learn how architects develop the skills necessary to effectively communicate to clients, colleagues, and user groups. Trends such

as globalization, ethics, entrepreneurship, sustainability issues and technology shifts are analyzed in their capacity to affect the practice of an architect.

672. Professional Practice II. (B) Capaldi.

A continuation of ARCH 671. Further study of the organizational structures of architectural practices today, especially those beyond the architect's office. The course is designed as a series of lectures, workshops and discussions that allows students and future practitioners the opportunity to consider and develop the analytical skills required to create buildings in the world of practice.

Master of Environmental Building Design - Core

708. Environmental Design Studio. (L) Faculty. Prerequisite(s): ARCH-751, ARCH-752, ARCH-753, and ARCH-754.

An advanced design studio for the MEBD program that synthesizes the concepts and techniques of environmental building design. Topics and materials for the studio are developed in Arch 752: MEBD Research Seminar, and summarized in a research report at the end of studio.

751. Ecology, Technology, and Design. (A) Braham.

This course will examine the ecological nature of design at a range of scales, from the most intimate aspects of product design to the largest infrastructures, from the use of water in bathroom to the flow of traffic on the highway. It is a first principle of ecological design that everything is connected, and that activities at one scale can have quite different effects at other scales, so the immediate goal of the course will be to identify useful and characteristic modes of analyzing the systematic, ecological nature of design work, from the concept of the ecological footprint to market share.

The course will also draw on the history and philosophy of technology to understand the particular intensity of contemporary society, which is now characterized by the powerful concept of the complex, self-regulating system. The system has become both the dominant mode of explanation and the first principle of design and organization.

SM 752. MEBD Research Seminar. (A) Braham.

Directed student research of selected topics in environmental building design. These topics will be further explored in ARCH 708: MEBD Studio and will provide the

basis for the research documents developed with each student's design project. Course work will include lectures, discussions, weekly readings, and in-class exercises. Each student will be required to make a presentation and submit a research report.

753. Building Performance Simulation. (A) Yi.

The course provides students with an understanding of building design simulation methods, hands-on experience in using computer simulation models, and exploration of the technologies, underlying principles, and potential applications of simulation tools in architecture. Classroom lecturers are given each week, with a series of analysis projects to provide students with hands-on experience using computer models. This course is required and reserved for MEBD students.

SM 754. Performance Design Workshop. (B) Yi.

The workshop applies simulation and diagramming techniques to a series of discrete design projects at different scales. The emphasis is on refinement and optimization of performance based building design. Performance analysis techniques can provide enormous amounts of information to support the design process, acting as feedback mechanisms for improved performance, but careful interpretation and implementation are required to achieve better buildings.

Energy, lighting, and air flow are the three main domains covered in the workshop. Students will learn how to utilize domain tools at an advanced level, and utilize them as applications to examine the environmental performance of existing buildings. Using the results of analytical techniques, the students will develop high-performance design strategies in all three domains.

Lectures will be given on specific topics each week. A series of analytical class exercises will be assigned to provide students with hands-on experience in using the computer models. A case-study building will be provided at the beginning of the course and students will model different components each week throughout the semester. Every week students present the progress of their work, which will be used to correct methodological and technical issues.

Master of Science in Design: Advanced Architectural Design - Core

703. Advanced Architectural Design Studio. (A) Rahim and Faculty.

An Advanced Architectural Design Studio specifically tailored to post-professional students. Through this studio, students engage in the challenges and opportunities presented by changes in society, technology, and urban experience. Through design projects, they explore alternative modes and markets for practice, along with new directions and new tools for design.

717. Philosophy of Urban History. (A) Delanda.

The seminar is based on the thesis that "the Architecture of the City" is not only the work of an individual architect or a company but also the product of the city itself. The intention of the seminar is to demonstrate the creative architectural production of the city of New York and particular of Manhattan. The seminar is a build up by the progressive transformation of the architecture of the city within the 20th century until today. This process of transformation of the architecture of New York starts with the moment architecture was formed by the underlying subdivision of the cities grid, continues with the transformation of architecture becoming the city itself and ends with today's architectural production of the city as the production of a new ground for the city. There will be eight sessions in Philadelphia and five sessions in New York City which will provoke a discussion with New York City Leaders, Inter-disciplinary thinkers, cultural leaders and financiers.

SM 743. Form and Algorithm. (A) Balmond/Blasetti.

The critical parameter will be to develop the potential beyond finite forms of explicit and parametric modeling towards non-linear algorithmic processes. We will seek novel patterns of organization, structure, and articulation as architectural expressions within the emergent properties of feedback loops and rule based systems. This seminar will accommodate both introductory and advanced levels. No previous scripting experience is necessary. It will consist of a series of introductory sessions, obligatory intensive workshops, lectures followed by suggested readings, and will gradually focus on individual projects. Students will be encouraged to investigate the limits of algorithmic design both theoretically and in practice through a scripting environment.

Master of Science in Architecture and PhD in Architecture - Core

SM 811. (ARCH711) Architectural Research. (A) Leatherbarrow and Faculty.

This course has three parts. All incoming students in the M.S. and Ph.D. programs should attend the first, and register for either the second or the third sections. The first part consists of a series of presentations by members of the Graduate Group in Architecture. The several presentations will address the topics the faculty are currently examining and will demonstrate different methods or styles of research. The other two sections of this course address basic concepts, texts, and methods in 1: history and theory, and 2) technology and simulation.

812. Field Research. (B) Faculty.

First year Ph.D. and M.S. students will use this course to register for a research elective in their field of study. Courses to be taken will be selected from a list of electives offered by members of the Graduate Group of Architecture, typically the seminars offered by those faculty at the Masters level. At the outset of the course Ph.D. and M.S. students will discuss and decide with the professor the readings, research, and writings that will be appropriate for the course, given the student's field of study.

813. Qualifying Research. (B) Faculty.

This is an independent study course for first year Ph.D. and M.S. students, supervised by a member of the Graduate Group in Architecture. A course of readings and advisors sessions throughout the semester will result in an independent study paper, which will also be used as the student's qualifying paper for the Qualifying Examination. This research paper will be prepared as if for scholarly publication.

815. Research Report. (A) Faculty.

The candidate for the M.S. in Architecture degree shall prepare a research report in his or her subject of study. The topic of this report must be approved by an advisor. This report will be developed in the independent study courses, undertaken after the eight units of course work has been completed, normally in the summer semester. The purpose of these courses is to give the student an opportunity to synthesize their previous coursework at Penn. Course enrollment is by permit only. Please contact Leigh Anne Scarborough (ARCH Dept.) at lascarbo@sas.upenn.edu.

851. Dissertation Bibliography. (D) Faculty.

This course is essentially an independent study, undertaken by doctoral students in preparation for the Candidacy Examination. This course should be taken in conjunction with ARCH 852 after all other courses have been completed. Normally a member of the student's Dissertation Committee supervises this course.

852. Dissertation Proposal. (D) Faculty.

This course is essentially an independent study, undertaken by doctoral students in order to write the Proposal for the Dissertation. The Proposal is prepared before and defended during the Candidacy Examination. This course should be taken in conjunction with ARCH 852 after all other courses have been completed. Normally a member of the student's Dissertation Committee supervises this course.

Study Abroad

698. Architectural Association (AA), London. (A) Farjadi.

An advanced Architectural Design Studio taught by Homa Farjadi in London at the Architectural Association's School of Architecture. Topics engage aspects of urban life and urban form in London, and vary from year to year. During the fifth term of the Master of Architecture program, up to fifteen students a year may enroll for the semester abroad program in London, England. This is coordinated by Prof. Homa Farjadi and is housed at the Architectural Association (AA), located on Bedford Square in the heart of Bloomsbury. Students enroll in a special design studio, ARCH 702, taught by Prof. Farjadi, and in two elective courses offered by the faculty at the AA.

782. Architecture Study Abroad Program. (L) Fierro and Faculty. Last day to drop course without penalty: April 22, 2016. Students who withdraw from the program after April 22, 2016 will forfeit 100% of the tuition and general fee.

A four to six week program of study in locations that vary, such as Paris, Greece and Colombia. Summer 2016: ARCH-782-901 Paris, France: May 25 to June 01 2016. ARCH-782-902 Greece: May 17 to June 16, 2016. ARCH-782-903 Colombia: May 17 to June 23 2016. For additional information please contact the Architecture Department directly: arch@design.upenn.edu.

Electives

706. Independent Thesis. (B) Faculty.

In the final semester of the program, students select from three options; 1) An elective design studio; selected from among the advanced architectural design studios offered by the Department of Architecture; 2) a research studio, the exploration of a topic or theme established by an individual faculty member or group of faculty members; or 3) an independent thesis, the exploration of a topic or theme under the supervision of a thesis advisor.

SM 721. (IPD 521) Designing Smart Objects for Play and Learning. (A) Diana.

Today's children enjoy a wide array of play experiences, with stories, learning, characters and games that exist as physical stand-alone objects or toys enhanced with electronics or software. In this course, students will explore the domain of play and learning in order to develop original proposals for new product experiences that are at once tangible, immersive and dynamic. They will conduct research into education and psychology while also gaining hands-on exposure to new product manifestations in a variety of forms, both physical and digital. Students will be challenged to work in teams to explore concepts, share research and build prototypes of their experiences in the form of static objects that may have accompanying electronic devices or software. Final design proposals will consider future distribution models for product experiences such as 3D printing, virtual reality and software- hardware integration. Instruction will be part seminar and part workshop, providing research guidance and encouraging connections will subject matter experts throughout the Penn campus.

SM 724. Technology in Design. (B) Kim, Simon.

The aim of this course is to understand the new medium of architecture within the format of a research seminar. The subject matter of new media is to be examined and placed in a disciplinary trajectory of building designed and construction technology that adapts to material and digital discoveries. We will also build prototype with the new media, and establish a disciplinary knowledge for ourselves. The seminar is interested in testing the architecture-machine relationship, moving away from architecture that looks like machines into architecture that behaves like machines: An intelligence (based on the conceptual

premise of a project and in the design of a system), as part of a process (related to the generative real of architecture) and as the object itself and its embedded intelligence.

SM 726. (IPD 526) Contemporary Furniture Design. (B) Mueller-Russo.

This course provides a platform, in the form of furniture, to execute and deploy architectural & engineering principles. It will be conducted as a seminar and workshop, and will introduce students to a variety of design methodologies that are unique to product design. The course will engage in many of the considerations that are affiliated with CAD/CAM production, the appropriate and innovative use of materials, and human factors. Students conduct case studies and research into industrial design processes, and will adapt these processes into techniques for designing a chair. Throughout the semester, students will experience first hand structural and material behavior, and understand ergonomic constraints by testing their design at different scales. The process will include: the production of a final design, its detailing, prototype development, Color/Material/Finishes (CMF), design for Computer Aided Manufacturing (CAM), the possibility of mass customization, research of materials and fabrication methods, optimization studies, Computer Aided Design (CAD), model making, furniture case studies, and a site visit to a major furniture manufacturer.

727. (IPD 527) Industrial Design. (C) Bressler.

Industrial design (ID) is the professional service of creating and developing concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of both user and manufacturer. Industrial designers develop these concepts and specifications through collection, analysis and synthesis of user needs data guided by the special requirements of the client or manufacturer. They are trained to prepare clear and concise recommendations through drawings, models and verbal descriptions. The profession has evolved to take its appropriate place alongside Engineering and Marketing as one of the cornerstones of Integrated Product Design teams. The core of Industrial Design's knowledge base is a mixture of fine arts, commercial arts and applied sciences utilized with a set of priorities that are firstly on the needs of the end user and functionality, then the market and manufacturing criteria.

This course will provide an overview and understanding of the theories, thought processes and methodologies employed in

the daily practice of Industrial Design. This includes understanding of ethnographic research and methodologies, product problem solving, creative visual communication, human factors / ergonomics application and formal and surface development in product scale. This course will not enable one to become an industrial designer but will enable one to understand and appreciate what industrial design does, what it can contribute to society and why it is so much fun.

SM 728. (IPD 528) Design of Contemporary Products. (B) Diana.

Smart objects are information-based products that are in ongoing dialogs with people, the cloud and each other. By crafting rich interactions, designers can create expressive behaviors for these objects based on sophisticated programmed responses. At the same time, sensor technologies have enabled us to introduce natural gestures as a means of interacting with a product. (Not only can we push, pull and twist a data value, but we can wave at, caress, tilt and shake it as well.) With an explosion of new possibilities for object interaction and human control, it is the designer's role to envision new solutions that are both meaningful and responsible.

This course will explore product design solutions through a combination of physical and digital design methods. Beginning with an examination of case studies, students will gain a sense of the breadth of product and interaction design practice as it applies to smart objects. Through a series of lectures and hands-on studio exercises, students will explore all aspects of smart object design including expressive behaviors (light, sound and movement), interaction systems, ergonomics, data networks and contexts of use. The course will culminate in a final project that considers all aspects of smart object design within the context of a larger theme.

730. Techniques, Morphology, and Detailing of a Pavilion. (B) Al Khayer, Mohamad.

The course will focus on the design, morphology detailing, and the construction of "PennDesign Pavilion inspired by Russel Write Designs" which is set to be constructed in Spring 2016 on a site located at the University of Pennsylvania Campus. The course will develop through hands-on workshops and will focus on acquiring knowledge through making (Techne), understanding the morphological transformation of a given geometric packing, and building using readily available materials. The process consists of

building and testing physical models that simulates the actual pavilion. In addition to digital simulation sessions to realize the desired design, which answers to the program developed by PennDesign faculty. The second half of the semester will focus on using lightweight construction materials to fabricate the pavilion's actual components, including structural elements, molded components, and joints, which are required for pavilion's final assembly. Additionally students will learn to organize design and fabrication teams, control design and production schedules, and work with set budget, which requires keeping track of construction cost and forecast for required procurements, including material quantities takeoff, ordering and schedule deliveries and receiving.

SM 731. Experiments in Structures. (A) Al Khayer.

This course studies the relationships between geometric space and those structural systems that amplify tension. Experiments using the hand (touch and force) in coordination with the eye (sight and geometry) will be done during the construction and observation of physical models. Verbal, mathematical and computer models are secondary to the reality of the physical model. However these models will be used to give dimension and document the experiments. Team reports will serve as interim and final examinations. In typology, masonry structures in compression (e.g., vault and dome) correlate with "Classical" space, and steel or reinforced concrete structures in flexure (e.g., frame, slab and column) with "Modernist" space. We seek the spatial correlates to tensile systems of both textiles (woven or braided fabrics where both warp and weft are tensile), and baskets (where the warp is tensile and the weft is compressive). In addition to the experiments, we will examine Le Ricolais' structural models held by the Architectural Archives.

733. (IPD 530) Building Product Design. (A) Faculty. Prerequisite(s): ARCH 403/IPD 503 or ARCH major.

As Craig Vogel notes in *The Design of Things to Come*, "we are in a new economic age that is in need of a new renaissance in product development, one that leverages multiple minds working in concert." With this mindset, this interdisciplinary workshop guides students through the product design process from design brief to concept generation and prototype development in one semester, working firsthand with Transwall, a leading manufacturer of demountable wall systems,

to focus on a specific product need. The design opportunity looks for the next generation of pre-manufactured wall systems; getting away from field construction walls and looking at critical issues of mass-produced wall systems: flexibility, mobility, structural stability, acoustics, transparency/opacity and operability. During the workshop, students will explore the context that creates the unique need for a new product and have an opportunity to conceptualize their ideas through sketches, digital modeling and prototype development.

SM 734. Ecological Architecture - Contemporary Practices. (B) Woodward.

Architecture is an inherently exploitive act - we take resources from the earth and produce waste and pollution when we construct and operate buildings. As global citizens, we have an ethical responsibility to minimize these negative impacts. As creative professionals, however, we have a unique ability to go farther than simply being "less bad." We are learning to design in ways that can help heal the damage and regenerate our environment. This course explores these evolving approaches to design - from neo-indigenous to eco-tech to LEED to biomimicry to living buildings. Taught by a practicing architect with many years of experience designing green buildings, the course also features guest lecturers from complementary fields - landscape architects, hydrologists, recycling contractors and materials specialists. Coursework includes in-class discussion, short essays and longer research projects.

SM 738. The Modern House: Technology Then and Now. (B) Fierro.

In the current age of new fabrication methodologies, methods are emerging for the conception and design of the contemporary house which have radical potential for enclosure, habitation and practices of daily life. This course begins by examining the canonical houses of the original avant-garde--Adolf Loos, Frank Lloyd Wright, Le Corbusier, Mies van der Rohe and Alvar Aalto -on the premise that their houses were working manifestos for rethinking space, form and indeed ideas of life itself -all of which were prompted by new concepts of construction. From this spectrum of issues, contemporary houses and contemporary methods and materials will be studied extensively to develop equally new ideas between matter and quotidian life. As the primary task of the course, students will work in teams to develop highly detailed constructional

proposals for a portion of a speculative home.

741. Architecture Design Innovation. (A) Rahim.

The mastery of techniques, whether in design, production or both, does not necessarily yield great architecture. As we all know, the most advanced techniques can still yield average designs. Architects are becoming increasingly adept producing complexity & integrating digital design and fabrication techniques into their design process - yet there are few truly elegant projects. Only certain projects that are sophisticated at the level of technique achieve elegance. This seminar explores some of the instances in which designers are able to move beyond technique, by commanding them to such a degree so as to achieve elegant aesthetics within the formal development of projects.

SM 744. (IPD 544) Postdigital Craft. (B) Kolatan.

As we have entered a postdigital era, the dominance of a purely technological approach as a vehicle for design innovation has waned. Questions of substance and disciplinary autonomy have found their way back into the contemporary cultural discourse, enriching the way we examine and deploy advanced technologies towards novel expressions in architecture. This seminar will investigate, through the production of estranged objects, opportunities for design that are being generated at the intersection of machine and human minds, and speculate on possible futures in which concepts of nature and technology have been inseparably intertwined.

SM 750. Parafictional Objects. (B) Ayata, Ahemt Kutun.

This representation/design seminar explores the aesthetics of estrangement in realism through various mediums. The reality of the discipline is that architecture is a post-medium effort. Drawings, Renderings, Models, Prototypes, Computations, Simulations, Texts, and Buildings are all put forward by architects as a speculative proposal for the reality of the future. Students will explore the reconfiguration of a "found object" in multiple mediums and represent parafictional scenarios in various techniques of realism. At a time when rendering engines enable the production of hyper-realistic images within the discipline without any critical representational agenda, it has become ever more imperative to rigorously speculate on realism.

762. (CPLN643) Design and Development. (B) Schnert.

This course provides an introduction to the relationship between architectural design and real estate development. Following a discussion of fundamentals, examples focus on commercial building types, and illustrate how architectural design can contribute to real estate development. Topics include housing design commercial buildings, adaptive reuse, downtown development, mixed-use projects, and planned communities. The course consists of lectures, reading assignments, short essays, a group project, and an mid-term test.

Invited lecturers include architects and real estate developers. Readings consist of a Bulkpack available from Wharton Reprographics. There is one course text: Witold Rybczynski, "Last Harvest."

SM 765. Project Management. (B) Capaldi.

This course is an introduction to techniques and tools of managing the design and construction of large, and small, construction projects. Topics include project delivery systems, management tools, cost-control and budgeting systems, professional roles. Case studies serve to

illustrate applications. Cost and schedule control systems are described. Case studies illustrate the application of techniques in the field.

999. Independent Study. (C) Faculty.

This course enables student to undertake a self-directed study on a topic in Architecture, under the supervision of a faculty member. Students are required to make a proposal for the study to the Department Chair, outlining the subject and method of investigation, and confirming the course supervisor at least two weeks prior to the beginning of the semester.

ART & ARCHAEOLOGY OF THE MEDITERRANEAN WORLD (AS) {AAMW}

401. (CLST275) Introduction to Greek Archaeology. (M) Staff.

An introduction to the art and archaeology of ancient Greece from the Archaic through Hellenistic periods. Topics to be considered include the formation of the Greek polis, the rising and falling fortunes of Athens and the other Greek city-states in the Classical period, and the world of Alexander the Great. Emphasis is placed on the consideration of the archaeological evidence, e.g., sculpture, painting, pottery, architecture, and other material culture. This course is part of a sequence of introductory courses (with Ages of Homer and Introduction to Roman Archaeology) on the archaeology of the Greco-Roman world. There are no prerequisites, and these courses need not be taken in a particular order.

413. (CLST270) Ancient Athletics. (M) Romano.

The art, archaeology and history of athletics in ancient Greece. Among the topics to be included are: famous Greek athletes, female athletes, the ancient Olympic Games and other athletic festivals, ancient athletic facilities and equipment, the excavation of ancient athletic sites and practical athletics.

L/R 424. (ARTH224, ARTH624) Art of Mesopotamia. (C) Pittman.

A survey of the art of Mesopotamia from 4000 B.C. through the conquest of Alexander the Great.

427. (ARTH427, CLST427) Roman Sculpture. (M) Kuttner, Rose.

Survey of the Republican origins and Imperial development of Roman sculpture - free-standing, relief, and architectural - from ca. 150 BC to 350 AD. We concentrate on sculpture in the capital city and on court and state arts, emphasizing commemorative public sculpture and Roman habits of decorative display; genres examined include relief, portraits, sarcophagi, luxury and minor arts (gems, metalwork, coinage). We evaluate the choice and evolution of styles with reference to the functions of sculptural representation in Roman culture and society.

428. (ARTH428) Hellenistic Art and Spectacle. (C) Kuttner.

Hellenistic usually names art in the age of Mediterranean culture from the 4th century BCE and the rise of Alexander the Great's Macedon, and the Greco-Macedonian conquest of the Persian Empire, to Cleopatra of Egypt's defeat by Rome at the end of the Republic. Our course looks also at the age of Augustus and his successors, 1st century CE. While Greek and Macedonian practice in city-states and kingdoms is our launching point, this course also looks at international culture and cultural interaction among peoples from North Africa and Etrusco-Roman Italy, Egypt, (Etrusco) Anatolia, the Mideast and Central Asia. We probe art, artifacts, and visual display from a range of settings, from sanctuary to house, palace and parade, and in all media, from marble monuments to pottery and jewelry. Our archaeology of Hellenistic visual culture also looks at the rich body of Hellenistic and Roman texts of art history, art criticism, and the description of objects and image, to better understand the Hellenistic maker, patron, and viewer. No prerequisites. It is desirable for undergraduates to have experience of research. Of interest to students in AAMW, ARTH, ANCH, CLST, VLST, NELC, RELS and ANTH.

432. (ARTH432) Early Christian and Byzantine Architecture. Ousterhout.

Architecture and its decoration from Early Christian times in East and West until the sixth century A.D., and in the Byzantine lands until the Turkish Conquest.

435. (ARTH435, COML415, NELC489) Medieval Islamica art & Architecture. (M) Holod.

An introduction to the major architectural monuments and trends, as well as to the best-known objects of the medieval (seventh-to-fourteenth-century) Islamic world. Attention is paid to such themes as the continuity of late antique themes, architecture as symbol of community and power, the importance of textiles and primacy of writing. Suitable for students of literature, history, anthropology as well as art history.

SM 477. (ANTH477, HSPV577) Archaeological Chemistry. (M) McGovern.

SM 509. (ARTH501, NELC501) Curatorial Seminar. (M) Staff.

Spring 2015: Practiced in almost all ancient cultures, magic offered ways of managing or understanding the present, controlling supernatural agencies, and seeing the

future. The objects and images associated with magical practices are rich and varied and are well represented in the University of Pennsylvania Museum. The aim of the seminar is to prepare an exhibit on magic and divination, working with the archaeological collections of the UPM, specifically the Ancient Near Eastern, Egyptian, and Mediterranean sections. It will include objects such as amulets, curse tablets, incantation bowls, and magical papyri, as well as images representing magical practices. Participating students will select and research objects and prepare wall texts for the exhibit.

SM 512. (ANTH514, CLST512) Petrography of Cultural Materials. (M)

Introduction to thin-section petrography of stone and ceramic archaeological materials. Using polarized light microscopy, the first half of this course will cover the basics of mineralogy and the petrography of igneous, metamorphic and sedimentary rocks. The second half will focus on the petrographic description of ceramic materials, mainly pottery, with emphasis on the interpretation of provenance and technology. As part of this course, students will characterize and analyze archaeological samples from various collections. Prior knowledge of geology is not required.

SM 520. (ARTH520) Topics in Aegean Bronze Age. (M) Staff.

Topic varies.

Spring 2015: Double axes, horns of consecration, and images of a prominent female goddess were powerful cult symbols for both the Minoans and the Mycenaeans. And indeed, it was originally thought that these two cultures practiced the same religion. But closer examination of textual and archaeological evidence reveals that despite the similarities in their respective iconographies, the religions had significant differences, differences that must have arisen from their different cultural backgrounds. In this course we will look at many different types of evidence Linear A and B texts, archaeological sites and mortuary remains, cult objects such as rhyta and figurines, and artistic renderings of religious scenes found on gold rings and frescoes so that together we can attempt to reconstruct the ritual practices of these religions. We will also use these physical manifestations to consider more broadly the nature not only of the Minoan and Mycenaean religions, but also of the Minoan and Mycenaean cultures.

We will also come back to those similarities first noted in the artistic expression of the religions, so that we can

trace the Minoan elements that do appear in Mycenaean religion, and try to understand why they were taken up by the Mycenaeans and what that adoptive behavior meant in terms of religious belief. Elements of other Aegean cultures will be explored as well as we move forward in time through the Iron Age and into the Archaic and Classical periods, in an effort to evaluate what came through from the Bronze Age into the historical periods practice of cult.

SM 522. (ARTH522) Topics in Ancient Iranian Art. (M) Pittman.

Topic varies.

SM 523. (ARTH523) Topics in Art of Ancient Near East. (M) Pittman.

Topic varies.

SM 525. (ARTH525, CLST521) Topics in Greek and Roman Art. (M) Kuttner, Brownlee, A.

Topic varies.

Spring 2016: Rome and its world became dense with monuments, artifacts, images, structures, spaces which addressed individual and collective concerns that we can call political. In private and public displays, these concerns included citizenship and class standing, public achievement and power, the construction of social memory, and the very nature of being Roman in a city, republic, empire. Of interest here also are the roles of women and of the empire's indigenous peoples. Such displays often engaged, too, with religion, in a providential understanding of historical event. Cases range from displays of high design, 'art', to seemingly crude graphic communications; all shed light on Roman visual language, and its makers, patrons and spectators. Of especial interest to students in ArtH, AAMW, AncH, ClSt, RelSt, Anthro. No prior background in ancient Roman studies or art history/archaeology required. Open to advanced undergraduates with permission of the instructor.

SM 528. (ARTH528) Topics in Classical Architecture. (M)

Haselberger.

Topic Varies

SM 529. (ARTH529, CLST528) Vitruvian Studies. (M) Haselberger.

Topic varies.

SM 530. (ARTH530) Vitruvian Studies. (M) Haselberger.

Topic varies.

SM 534. (ANCH535, HIST535) Problems in Greek and Roman History. (C)

SM 535. (ARTH535) Topics in Islamic Epigraphy. (M) Holod.

Topic varies.

SM 537. (ARTH537, NELC617) Topics in Art of Iran. Holod.

Topic varies.

SM 538. (ARTH538) Topics in Art of Andalusia. (M) Holod.

Spring 2016: This pro-seminar will investigate the nature of Cordoba as the capital of the Umayyad realm in Iberia. Topics discussed will include: city and its suburbs, villas as loci of cultural production, the role of the congregational mosque, the city vs. the palace city of Madina al-Zahra. Knowledge of Spanish and/or Arabic desirable, but not necessary.

SM 541. (ARTH541) Topics in Early Medieval Architecture. (M) Staff.

Topic varies.

543. (ANCH542, NELC242, NELC542) Empires Anc Near East. (M)

546. Museum Internship. (B) Staff.

The Museum Internship in the spring consists of a research project with Penn Museum collections based on a proposal designed and approved during the fall AAMW Proseminar (AAMW 526). It is offered to, and is a requirement for, first-year AAMW graduate students only.

SM 556. (ANTH556) Practicum: Archaeological Field Methods. (C) Staff.

The course examines and analyzes the process of excavation as a problem of research design and method, from both intellectual and organizational aspects. Archaeological research design is stressed, from excavation planning through data retrieval, storage, processing, integration and interpretation, to presentation. Guest lecturers, who present critical evaluations of "case studies" are a regular feature. Prerequisite: excavation experience.

SM 557. (ANTH557, LALS557) Seminar in Archaeological Theory and Method: Archaeology of Landscapes. (M) Staff.

Topic varies.

562. (ANTH362, CLST362, CLST562) Introduction to Digital Archaeology.

Cobb. Prerequisite(s): Prior archaeological classwork and/or experience preferred. Please note that this is a lecture course with an undergraduate and graduate section.

Digital methods allow archaeologists to approach research questions about the human past with increasing accuracies on larger datasets and at multiple scales. This class introduces students to the three main steps of digital archaeology: data management, analysis, and sharing. Data management involves the design, creation, and curation of digital objects that capture the archaeological process and evidence. Students will gain deep familiarity in working with the main types of digital archaeological data: structured data (relational databases), 3d models/spatial data, and raster images. The class will provide abundant hands-on experience with the latest equipment and software for working with many different kinds of data. We will learn about data analysis techniques through a close examination of a variety of case studies in the literature that demonstrate how other archaeologists have applied digital methods to their archaeological questions. Finally, we will discuss the importance of sharing data through open access data publication and we will apply our skills with structured data to existing online archaeological datasets. The goal of this class is to prepare students to make methodological decisions during future research endeavors, both in the field and in the archaeological lab.

SM 601. (ANCH601, CLST601) Archaeology and Greek History. (M) Staff.

An examination of archaeological evidence relevant to selected problems in Greek history.

SM 603. (CLST603) Archaeology & The Greek Theater. (M) Staff.

This course will examine the written and especially the archaeological evidence for the production of Greek drama. Topics will include the theater buildings themselves, stage machinery, scene painting, and costumes. The main chronological focus will be on the fifth and fourth centuries B.C., but some attention will be paid to later developments.

SM 611. (ANCH611, CLST611, GREK611) Greek Epigraphy. (C) McNerney.

An introduction to the principles and practices of Greek Epigraphy. Study of selected Greek inscriptions.

620. (ARTH220, ARTH620) Minoan, Cycladic and Mycenaean Art. (M) Shank.

This course is designed to give the an overview of the cultures of the Aegean Bronze Age. The art and architecture of Crete, the Cyclades and the Mainland of Greece are examined in chronological order, with an emphasis on materials and techniques. In addition, larger issues such as the development of social complexity and stratification, and the changing balance of power during the Aegean Bronze Age are examined.

621. (ARTH221, ARTH621) Greek Vase Painting. (M) Brownlee A.

Spring 2015: Painted vases constitute the most important and comprehensive collection of visual evidence that survives from ancient Greece. In this course, we will examine the development of Greek vase-painting from the 10th to the 5th century BC, with particular emphasis on the pottery of the Archaic and Classical periods that was produced in the cities of Athens and Corinth. An object-based learning course, this class will focus on the close study of Greek vases in the collection of the University of Pennsylvania Museum, and a number of class sessions will meet in the Museum. Several guest lecturers will discuss the conservation and ancient repair of Greek vases and the ceramic analysis of Greek pottery. We will also learn about the making of ceramics in a session in the Addams Hall pottery studio. Some background in art history or classical studies is helpful but not required.

622. (ARTH222, ARTH622) Art of Ancient Iran. (M) Pittman.

This course offers a survey of ancient Iranian art and culture from the painted pottery cultures of the Neolithic era to the monuments of the Persian Empire. Particular emphasis is placed on the Early Bronze Age.

SM 624. Domestic Life in Ancient Civilizations. (M) Nishimura.

In this seminar course, students will learn what household archaeology is and how daily life of the commoners in ancient civilizations is studied, based primarily on household material culture excavated from different parts of the world. Through such archaeological data, we will examine and compare case-studies from three distinct regions - East Asia, the Near East, and Mesoamerica.

Strong emphasis is given to selected cultural aspects such as construction and maintenance of houses, household utensils and installations, daily food and body

ornaments, and domestic burials. The course aims to provide students with a strong foundation for further anthropology-, archaeology- and history-related courses.

625. (ARTH225, ARTH625, CLST220) Greek Art and Artifact. (M) Kuttner.

This course surveys Greek art and artifacts from Sicily to the Black Sea from the 10th century BCE to the 2nd century BCE, including the age of Alexander and the Hellenistic Kingdoms. Public sculpture and painting on and around grand buildings and gardens, domestic luxury arts of jewelry, cups and vases, mosaic floors, and cult artefacts are discussed. Also considered are the ways in which heroic epic, religious and political themes are used to engaged viewer's emotions and served both domestic and the public aims. We discuss how art and space was considered, along with ideas of invention and progress, the role of monuments, makers and patrons in Greek society.

626. (ARTH226, ARTH626) Hellenistic and Roman Art and Artifacts. (M) Kuttner.

This course surveys the political, religious and domestic arts, patronage and display in Rome's Mediterranean, from the 2nd c. BCE to Constantine's 4th-c. Christianized empire. Our subjects are images and decorated objects in their cultural, political and socio-economic contexts (painting, mosaic, sculpture, luxury and mass-produced arts in many media). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and late Etruscan and Republican Italy; next we map Imperial Roman art as developed around the capital city Rome, as well as in the provinces of the vast empire.

628. (ARTH228, ARTH628) Greek Architecture and Urbanism. (M) Haselberger.

Introduction to the art of building and city planning in the ancient Greek world, 7th-1st c. BC. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Mycenaean and eastern heritage as well as on theory and practice of urbanism as reflected in ancient cities (Athens, Pergamon, Alexandria) and writings (Plato, Aristotle, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.

629. (ARTH229, ARTH629) Roman Architecture and Urbanism. (M) Haselberger.

Introduction to the art of building and city planning in the Roman world, 6th c. BC -

2nd c. AD. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Etruscan and Greek heritage as well as on theory and practice of urbanism as reflected in ancient cities (Rome, Ostia, Roman Alexandria, Timgad) and writings (Vitruvius, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.

631. (ARTH231, ARTH631) Neoclassical Architecture. (M) Haselberger.

An intensive introduction to the architecture of the Neoclassical century (ca. 1750-1850), as it made its appearance all over Europe and parts of North America. Following an exploration of the roots and intellectual preconditions of this "true style," a selection of major monuments in France, Germany, Britain, and the USA will be analyzed as well as some forms of neoclassical revival in the early decades of the 20th century. Field trips to the Second Bank Building and the Art Museum in Philadelphia. No prerequisites.

632. (ARTH232, ARTH632) Byzantine Art and Architecture. (C) Ousterhout.

This course surveys the arts of Byzantium from the fall of Rome to the fall of Constantinople in 1453. Study of major monuments, including icons, mosaics, architecture, and ivories provide us with an overview of this rich artistic culture. We pay special attention to the role of the Orthodox Church and liturgy in the production and reception of art works. Weekly recitation sections focus on selected major issues, such as the relationship of art to the Holy, the uses and abuses of Iconoclasm, and imperial patronage. The course also grapples with the Empire's relationship to other cultures by looking at the impact of the Christian Crusades and Moslem invasions - as well as Byzantium's crucial impact on European art (e.g., in Sicily, Spain).

633. (ARTH233, ARTH633) Eastern Medieval Architecture. (M) Ousterhout.

This lecture course examines major architectural developments in the eastern Mediterranean between the 4th and 14th centuries CE. The focus is on the Byzantine Empire, with its capital at Constantinople. Lectures also devoted to related developments in the Caucasus (Armenia and Georgia), early Russia, the Balkans (Bulgaria and Serbia), Sicily and under the Normans, the Crusader states. Parallel developments in early Islamic architecture are used for comparative purposes. The course examines evidence

for religious and secular buildings, as well as urbanism and settlement patterns.

635. (ARTH235, ARTH635, NELC285, NELC685, VLST235) Introduction to Visual Culture of the Islamic World. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Holod.

A one-semester survey of Islamic art and architecture which examines visual culture as it functions within the larger sphere of Islamic culture in general. Particular attention will be given to relationships between visual culture and literature, using specific case studies, sites or objects which may be related to various branches of Islamic literature, including historical, didactic, philosophical writings, poetry and religious texts. All primary sources are available in English translation.

640. (ARTH240, ARTH640) Medieval Art. (A) Staff.

An introductory survey, this course investigates painting, sculpture, and the "minor arts" of the Middle Ages. Students will become familiar with selected major monuments of the Late Antique, Byzantine, Carolingian, Romanesque, and Gothic periods, as well as primary textual sources. Analysis of works emphasizes the cultural context, the thematic content, and the function of objects. Discussions focus especially on several key themes: the aesthetic status of art and the theological role of images; the revival of classical models and visual modes; social rituals such as pilgrimage and crusading; the cult of the Virgin and the status of women in art; and, more generally, the ideology of visual culture across the political and urban landscapes.

641. (ARTH241, ARTH641) Introduction to Medieval Architecture. (M) Staff.

This course provides an introduction to the built environment of the Middle Ages. From the fall of Rome to the dawn of the Renaissance, a range of architectural styles shaped medieval daily life, religious experience and civic spectacle. We will become familiar with the architectural traditions of the great cathedrals, revered pilgrimage churches, and reclusive monasteries of western Europe, as well as castles, houses, and other civic structures. We integrate the study of the architecture with the study of medieval culture, exploring the role of pilgrimage, courts and civil authority, religious reform and radicalism, crusading and social violence, and rising urbanism. In this way, we will explore the ways in which the built environment profoundly affected

contemporary audiences and shaped medieval life.

645. (ANTH645) Economy of Ancient Trade. (M) Staff.

This course will examine theoretical and empirical frameworks for pre-modern forms of exchange. We will focus on substantist and formalist economic theories and will consider the archaeological evidence for such phenomena a barter, gift exchange, administered economies, markets, local exchange, and long distance overland and maritime trade. Our goal is to develop mid-range models for reconstructing ancient economies. The course will emphasize but not be limited to complex societies of the New and Old World.

SM 702. (ANCH702, CLST702) Greek Sanctuaries. (M) Staff.

The formation and development of key religious sites, including Olympia, Delphi, Cyrene, Selinus, Cos and Lindos.

SM 703. (CLST703) The Ancient House. (A)

SM 705. (CLST705) ETHNOARCHAEOLOGY: GREECE. (M)

Ethnoarchaeology involves distinctive theoretical and methodological approaches to the study of living societies for the explicit purpose of shedding light on archaeological questions. In this seminar, we will review the intellectual history of ethnoarchaeology in North America and Europe, and explore case studies from Greece, the wider Mediterranean, and beyond. Among the topics will be analogy, cross-cultural comparison, experimental archaeology, oral history research, and archaeologically oriented ethnographic fieldwork. Students will create a proposal for ethnoarchaeological fieldwork in their area of interest in NSF or Wenner-Gren format, to be critiqued by the instructor and their peers.

SM 710. (ANTH708, ARTH709, CLST710) Curatorial Seminar: Gordion, Royal City of Midas. (M) Rose.

The course will focus on the planning for and design of an exhibit on Gordion and the Phrygians that will take place at the Penn Museum in 2016. The exhibit will feature substantial loans from museums in Turkey, including the "Midas Mound" at Gordion and the "Lydian Treasure" from the area around Sardis.

SM 715. (CLST715) Archaeology of Troy. (M) Rose.

An introduction to the archaeology of Troy, in northwestern Turkey. The course will focus on the results of excavations at the site in 1988, although the earlier excavations of Schliemann, Dorpfeld, and Blegen will also be considered. The course will cover a broad chronological span--from the early Bronze age through the late Roman period, and will include Greek, Roman, and Medieval attitudes toward Troy and the Trojan legend.

SM 720. (ARTH720, CLST614) Topics in Aegean Art. (M) Shank.

Topic varies.

SM 721. (ARTH721) Topics in Archaeological Science. (M)

Betancourt.

Topic varies.

SM 722. (CLST730) Topography of Rome. (C) Staff.

The topographical development of ancient Rome from its prehistoric beginnings to the late Imperial times with emphasis on the city's key historical and architectural monuments.

SM 723. (ANTH723, ARTH723, NELC740) Topics in the Art of the Ancient Near East. (M) Pittman.

Topic varies.

Spring 2015: This team taught class will extend from the lead up to the Neo Sumerian Empire through the Empire and its collapse and reorganization of the political landscape of greater Mesopotamia. It will consider the imperial period internally and from the perspective of the northern and eastern neighbors. This class is an upper level graduate research seminar that will include art historical, anthropological and historical approaches. Class participation and a major research paper are required.

SM 725. (ARTH725) Topics in Greek and Roman Art. (M) Kuttner.

Topic varies.

SM 729. (ARTH729) Topics in Roman Architecture and Topography. (M) Haselberger, Ousterhout.

Topic varies.

Fall 2015: This seminar will investigate two ancient architectural masterpieces, the 2nd c. AD Pantheon in Rome and the 6th c. AD Hagia Sophia in Istanbul. The two monuments stand at the forefront of the architectural trends under Hadrian and Justinian respectively, and are

best known for their unique designs and domes of unprecedented scale. The seminar will analyze issues of design, structure, aesthetics, and symbolism. No prerequisites; skills in digital visualization are welcome.

SM 732. (ARTH732) Topics in Byzantine Art and Architecture. (M)

Ousterhout.

Topic varies.

Spring 2016: The graduate seminar will investigate the dynamics of artistic exchange between Constantinople and its Byzantine provinces, as well as areas under its cultural influence. Both architecture and monumental art will be considered, focusing on the period of 6th-12th centuries. Students will produce two research papers: one addressing a Constantinopolitan monument; the second assessing artistic production in a region outside the Byzantine capital.

SM 736. (CLST736) The Archaeology of Coastal Northeast Africa: Cyrenaica and Marmarica. (M) Staff.

Prerequisite(s). Exposure to introductory courses. An examination of selected aspects of the Bronze Age to Late Roman period archaeology of the northeastern African coast between Alexandria and Syrtic gulf.

SM 738. (ARTH738, NELC731) Topics in Islamic Archaeology. (M) Holod.

Topic varies.

Spring 2017: This seminar will trace the development of the field from one that was centered largely on the recovery of major monuments to one in which issues of daily life, demography, chronology and the study of settlement patterns have come to play a major role. The seminar will review work in the major zones of the Islamic world: Central Asia, Iran, Iraq, Anatolia, Syria, Palestine, Egypt, North Africa I (Libya-Tunisia), North Africa II (Algeria-Morocco), Spain. Of special interest this semester will be the study of landscape archaeology and settlement patterns. The seminar will discuss changes in patterns of settlement, trade and material culture 650 - 1300 CE in different areas of the Islamic world, concentrating on sites in Iran, Syria and North Africa.

SM 740. Topics in Medieval Art. (M) Staff.

Topic varies.

Spring 2015: Among the functional genres shaping religious imagery in the Middle Ages and Renaissance, the altarpiece is arguably the most important, and many of the most famous panel paintings that hang today in museums originated as components of altarpieces. The altarpiece in the Latin church bridged the divide between clergy and laypeople, between cult and devotion, between public

acclaim and private interests. Such altarpieces developed into extraordinarily dynamic vehicles for staging the religious image, akin to mural painting (in its potential for narrative elaboration), and manuscript illumination (in its potential for interchanging and juxtaposing imagery). As an umbrella for diverse research projects in both medieval and Renaissance art, this seminar affords an overview of the origins, development and articulation of the altarpiece as a functional and pictorial genre in European art, on both sides of the Alps. It also seeks to provide students with the materials and practical training--technical, scholarly, interpretative--required to study altarpieces as visual, narrative, and material totalities.

SM 749. Seminar in Field Archaeology. (M) Staff.

Topic Varies.

SM 750. Supervised Reading and Research. (D) Staff.

751. Participation in Archaeological Excavations. (L) Staff.

Opportunities for qualified students to join in current expeditions. Credit allowed will depend on the length of time spent in the field.

800. Pedagogy.

999. Independent Study. (C) May be repeated for credit.

ART HISTORY (AS) {ARTH}

Introductory Courses

SM 100. (AFRC100, ENGL016, URBS106) Freshman Seminar. (C)

Staff. For Freshmen Only.

Topic varies.

Fall 2016 Spiegel-Wilks Seminar in Contemporary Art: A city is more than just a collection of places. It is a living archive of stories, memories and histories. Whose stories do we hear? Whose stories should we preserve? Are all stories equal? In this course, students will be introduced to a variety of unique historical sites and civic institutions that make visible anew Philadelphia and its cultural history. From the first classroom of the university, which was located at the American Philosophical Society, to the Johnson House Underground Railroad Station and House Museum on Germantown Avenue, this course will highlight the social life of the city, approaching the city itself as a living museum. What can the artworks, objects and institutions we experience each week teach us about the society in which we live? To answer this question, we will meet with artists, archivists, curators and scholars who will illuminate for us the social life of their collections. Through this course, students will be introduced to the study of the history of art. Our discussions will focus on changing aesthetics, the cultural politics of collecting, aspects of display and contextualization, the institution of the museum, and the increasingly blurred boundaries between ethnography, anthropology, and art history.

L/R 101. Prehistory to Renaissance: Introduction to Western Art from its Beginning to 1400. (A) Arts & Letters Sector. All Classes. Ousterhout.

This is a double introduction: to looking at the visual arts; and, to the ancient and medieval cities and empires of three continents - ancient Egypt, the Middle East and Iran, the Minoan and Mycenaean Bronze Age, the Greek and Roman Mediterranean, and the early Islamic, early Byzantine and western Medieval world. Using images, contemporary texts, and art in our city, we examine the changing forms of art, architecture and landscape architecture, and the roles of visual culture for political, social and religious activity.

L/R 102. (VLST232) Renaissance to Contemporary: Introduction to Western Art, 1400 to the Present. (B)

Arts & Letters Sector. All Classes. Dombrowski, Kim, Shaw.

This course is an introduction to the visual arts including painting, sculpture, print culture, and new media such as photography, film, performance and installation art in Europe and the United States from 1400 to the present. It offers a broad historical overview of the key movements and artists of the period, as well as an investigation into the crucial themes and contexts that mark visual art production after the middle ages. Such themes include the secularization of art; the (gendered) role of the artist in society; the sites of art production and consumption such as the artist's studio, the royal courts and the art exhibition; the materials of art; the import of technology and science to art's making, content and distribution; the rise of art criticism; and the socio-political contexts of patronage and audience; among others.

L/R 103. (EALC013, VLST233) Art and Civilization in East Asia. (M) Arts & Letters Sector. All Classes. Davis, Steinhardt.

Introduction to major artistic traditions of China and Japan and to the methodological practices of art history. Attention given to key cultural concepts and ways of looking, in such topics as: concepts of the afterlife and its representation; Buddhist arts and iconography; painting styles and subjects; and more broadly at the transmission of styles and cultural practices across East Asia. Serves as an introduction to upper level lecture courses in East Asian art history cultures. If size of class permits, certain sessions will be held in the Penn Museum or the Philadelphia Museum of Art.

104. (SAST200, SAST500, VLST234) Introduction to Art in South Asia. (M) Arts & Letters Sector. All Classes. Meister.

This course is a survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C., touching on the present. It attempts to explore the role of tradition in the broader history of art in India, but not to see India as 'traditional' or unchanging. The Indian sub-continent is the source for multi-cultural civilizations that have lasted and evolved for several thousand years. Its art is as rich and complex as that of Europe and diverse. This course introduces the full range of artistic production in India in relation to the multiple strands that have made the cultural fabric of the sub-continent so rich and long lasting.

105. (CLST104) Wonders of the Ancient World. (M) Pittman.

This course presents a comparative overview of the ancient civilizations around the world. It is designed as a gateway course for the many specialized courses available at Penn. Its focus is two fold: first, the various forms that ancient cultures have developed are explored and compared and second, the types of disciplines that study these courses are examined. The course has a number of guest lecturers, as well as visits to museums and libraries to examine original documents. This course meets the requirement for the Ancient Studies Minor.

L/R 106. Architect and History. (A) Humanities & Social Science Sector. Class of 2010 & beyond. Haselberger. This course cannot be taken pass/fail and must be taken for a normal grade.

Human experience is shaped by the built environment. This course introduces students to the interrelated fields of architecture, art history, and engineering and explores great architectural monuments from the ancient to the modern period, from India across the Mediterranean and Europe to the US. The focus will be on understanding these works in their structure and function, both as products of individual ingenuity and reflections of Zeitgeist. Questioning these monuments from a present-day perspective across the cultures will be an important ingredient, as will be podium discussions, guest lectures, excursions, and all kinds of visualizations, from digital walk-throughs to practical design exercises. Regularly taught in fall term, this course fulfills Sector IV, Humanities and Social Science, and it satisfies History of Art 100-level course requirements. This course cannot be taken on a pass/fail level. There is only ONE recitation in this course, attached directly to Friday's class at 2-3 p.m., in order to provide sufficient time for practica and field trips.

Core Courses

209. (AFRC209, AFST209, AFST218, ARTH609) African Art. (M) Staff.

This selective survey examines a variety of the circumstances of sub-Saharan African art, ranging from imperial to nomadic cultures and from ancient times to contemporary participation in the international market. Iconography, themes and style will be considered, as will questions of modernity, religious impact, tradition and colonialism.

211. (ARTH611) Art in India. (M) Meister.

A survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C. to the nineteenth century. An attempt to explore the role of tradition in the broader history of art in India.

212. (ARTH612, SAST201, SAST501) Cities and Temples in Ancient India. (M) Meister.

The wooden architecture of ancient India's cities is represented in relief carvings from Buddhist religious monuments of the early centuries A.D. and replicated in remarkable excavated cave cathedrals. This course will trace that architectural tradition, its transformation into a symbolic vocabulary for a new structure, the Hindu temple, and the development of the temple in India from ca. 500-1500 A.D.

L/R 213. (ARTH613, EALC157, EALC557) Arts of Japan. (M) Davis.

This course introduces the major artistic traditions of Japan, from the Neolithic period to the present, and teaches the fundamental methods of the discipline of art history. Special attention will be given to the places of Shinto, the impact of Buddhism, and their related architectures and sculptures; the principles of narrative illustration; the changing roles of aristocratic, monastic, shogunal and merchant patronage; the formation of the concept of the artist over time; and the transformation of tradition in the modern age.

L/R 214. (ARTH614, EALC127, EALC527) Arts of China. (M) Steinhardt, Davis.

The goals of this course are to introduce the major artistic traditions of China, from the Neolithic period to the present and to teach the fundamental methods of the discipline of art history. Our approaches will be chronological, considering how the arts developed in and through history, and thematic, discussing how art and architecture were used for philosophical, religious and material ends. Topics of study will include; Shang bronzes: Han concepts of the afterlife; the impact of Buddhism; patronage and painting; the landscape tradition; the concept of the literatus; architecture and garden design; the "modern" and 20th-century artistic practices; among others.

L/R 217. (ARTH617, EALC227, EALC627) Chinese Painting. (M)

Steinhardt. Also fulfills General Requirement in History & Tradition for Class of 2009 and prior.

Study of Chinese painting and practice from the earliest pictorial representation through the late twentieth century. Painting style forms the basis of analysis, and themes such as landscape and narrative are considered with regard to larger social and cultural issues. The class pays particular attention to the construction of the concepts of the "artist" and "art criticism" and their impact on the field into the present. Visits to look at paintings at the University of Pennsylvania Museum, PMA and/or local collections.

220. (AAMW620, ARTH620) Minoan, Cycladic and Mycenaean Art. (M) Shank.

This course is designed to give an overview of the cultures of the Aegean Bronze Age. The art and architecture of Crete, the Cyclades and the Mainland of Greece are examined in chronological order, with an emphasis on materials and techniques. In addition, larger issues such as the development of social complexity and stratification, and the changing balance of power during the Aegean Bronze Age are examined.

221. (AAMW621, ARTH621) Greek Vase Painting. (M) Brownlee, A.

Spring 2015: Painted vases constitute the most important and comprehensive collection of visual evidence that survives from ancient Greece. In this course, we will examine the development of Greek vase-painting from the 10th to the 5th century BC, with particular emphasis on the pottery of the Archaic and Classical periods that was produced in the cities of Athens and Corinth. An object-based learning course, this class will focus on the close study of Greek vases in the collection of the University of Pennsylvania Museum, and a number of class sessions will meet in the Museum. Several guest lecturers will discuss the conservation and ancient repair of Greek vases and the ceramic analysis of Greek pottery. We will also learn about the making of ceramics in a session in the Addams Hall pottery studio. Some background in art history or classical studies is helpful but not required.

222. (AAMW622, ARTH622) Art of Ancient Iran. (M) Pittman.

This course offers a survey of ancient Iranian art and culture from the painted pottery cultures of the Neolithic era to the monuments of the Persian Empire.

Particular emphasis is placed on the Early Bronze Age.

L/R 224. (AAMW424, ARTH624) Art of Mesopotamia. (M) Pittman.

A survey of the art of Mesopotamia from 4000 B.C. through the conquest of Alexander the Great.

225. (AAMW625, ARTH625, CLST220) Greek Art and Artifact. (M) Kuttner.

This course surveys Greek art and artifacts from Sicily to the Black Sea from the 10th century BCE to the 2nd century BCE, including the age of Alexander and the Hellenistic Kingdoms. Public sculpture and painting on and around grand buildings and gardens, domestic luxury arts of jewelry, cups and vases, mosaic floors, and cult artefacts are discussed. Also considered are the ways in which heroic epic, religious and political themes are used to engaged viewer's emotions and served both domestic and the public aims. We discuss how art and space was considered, along with ideas of invention and progress, the role of monuments, makers and patrons in Greek society.

226. (AAMW626, ARTH626, CLST221) Hellenistic and Roman Art and Artifacts. (M) Kuttner.

This course surveys the political, religious and domestic arts, patronage and display in Rome's Mediterranean, from the 2nd c. BCE to Constantine's 4th-c. Christianized empire. Our subjects are images and decorated objects in their cultural, political and socio-economic contexts (painting, mosaic, sculpture, luxury and mass-produced art in many media). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and late Etruscan and Republican Italy; next we map Imperial Roman art as developed around the capital city Rome, as well as in the provinces of the vast empire.

L/R 227. (AAMW627, ANTH111, ARTH627, CLST111) Introduction to Mediterranean Archaeology. (M) History & Tradition Sector. All classes.

Many of the world's great ancient civilizations flourished on the shores of the Mediterranean Sea: the Egyptians, the Minoans and Mycenaeans, the Greeks and Romans, just to name a few. In this course, we focus on the ways that archaeologists recover and interpret the material traces of the past, working alongside natural scientists, historians and art historians, epigraphers and philologists, and many others.

228. (AAMW628, ARTH628) Greek Architecture and Urbanism. (M)

Haselberger.

Introduction to the art of building and city planning in the ancient Greek world, 7th-1st c. BC. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Mycenaean and eastern heritage as well as on theory and practice of urbanism as reflected in ancient cities (Athens, Pergamon, Alexandria) and writings (Plato, Aristotle, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.

229. (AAMW629, ARTH629) Roman Architecture and Urbanism. (M)

Haselberger.

Introduction to the art of building and city planning in the Roman world, 6th c. BC - 2nd c. AD. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Etruscan and Greek heritage as well as on theory and practice of urbanism as reflected in ancient cities (Rome, Ostia, Roman Alexandria, Timgad) and writings (Vitruvius, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.

231. (AAMW631, ARTH631) Neoclassical Architecture. (M)

Haselberger.

An intensive introduction to the architecture of the Neoclassical century (ca. 1750-1850), as it made its appearance all over Europe and parts of North America. Following an exploration of the roots and intellectual preconditions of this "true style," a selection of major monuments in France, Germany, Britain, and the USA will be analyzed as well as some forms of neoclassical revival in the early decades of the 20th century. Field trips to the Second Bank Building and the Art Museum in Philadelphia. No prerequisites.

232. (AAMW632, ARTH632) Byzantine Art and Architecture. (C)

Ousterhout.

This course surveys the arts of Byzantium from the fall of Rome to the fall of Constantinople in 1453. Study of major monuments, including icons, mosaics, architecture, and ivories provide us with an overview of this rich artistic culture. We pay special attention to the role of the Orthodox Church and liturgy in the production and reception of art works. Weekly recitation sections focus on selected major issues, such as the relationship of art to the Holy, the uses and abuses of Iconoclasm, and imperial

patronage. The course also grapples with the Empire's relationship to other cultures by looking at the impact of the Christian Crusades and Moslem invasions - as well as Byzantium's crucial impact on European art (e.g., in Sicily, Spain).

233. (AAMW633, ARTH633) Eastern Medieval Architecture. (M)

Ousterhout. This lecture course examines major architectural developments in the eastern Mediterranean between the 4th and 14th centuries CE. The focus is on the Byzantine Empire, with its capital at Constantinople. Lectures also devoted to related developments in the Caucasus (Armenia and Georgia), early Russia, the Balkans (Bulgaria and Serbia), Sicily and under the Normans, the Crusader states. Parallel developments in early Islamic architecture are used for comparative purposes. The course examines evidence for religious and secular buildings, as well as urbanism and settlement patterns.

235. (AAMW635, ARTH635, NELC285, NELC685, VLST235)

Introduction to Visual Culture of the Islamic World. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Holod.

A one-semester survey of Islamic art and architecture which examines visual culture as it functions within the larger sphere of Islamic culture in general. Particular attention will be given to relationships between visual culture and literature, using specific case studies, sites or objects which may be related to various branches of Islamic literature, including historical, didactic, philosophical writings, poetry and religious texts. All primary sources are available in English translation.

240. (AAMW640, ARTH640) Medieval Art. (A)

Staff.

An introductory survey, this course investigates painting, sculpture, and the "minor arts" of the Middle Ages. Students become familiar with selected major monuments of the Late Antique, Byzantine, Carolingian, Romanesque, and Gothic periods, as well as primary textual sources. Analysis of works emphasizes the cultural context, the thematic content, and the function of objects. Discussions focus especially on several key themes: the aesthetic status of art and the theological role of images; the revival of classical models and visual modes; social rituals such as pilgrimage and crusading; the cult of the Virgin and the status of women in art; and, more generally, the ideology of visual culture across the political and urban landscapes.

241. (AAMW641, ARTH641) Introduction to Medieval Architecture. (M)

Staff.

This course provides an introduction to the built environment of the Middle Ages. From the fall of Rome to the dawn of the Renaissance, a range of architectural styles shaped medieval daily life, religious experience and civic spectacle. We examine the architectural traditions of the great cathedrals, revered pilgrimage churches, and reclusive monasteries of Western Europe, as well as castles, houses, and other civic structures. We integrate the study of the architecture with the study of medieval culture, exploring the role of pilgrimage, courts and civil authority, religious reform and radicalism, crusading and social violence, and rising urbanism. In this way, we explore the ways in which the built environment profoundly affected contemporary audiences and shaped medieval life.

250. (ARTH650) Michelangelo and the Art of the Italian Renaissance. (A)

Kim.

An introduction to the work of the Renaissance artist Michelangelo (1475-1564)-his sculptures, paintings, architecture, poetry, and artistic theory-in relation to his patrons, predecessors, and contemporaries, above all Leonardo and Raphael. Topics include artistic creativity and license, religious devotion, the revival of antiquity, observation of nature, art as problem-solving, the public reception and function of artworks, debates about style, artistic rivalry, and traveling artists. Rather than taking the form of a survey, this course selects works as paradigmatic case studies, and will analyze contemporary attitudes toward art of this period through study of primary sources.

252. (ARTH652) Venice and the Mediterranean. (C)

Kim.

This course explores the art and architecture of Venice and her mainland and overseas colonies, with emphasis upon the Dalmatian coast and Aegean islands. Topics include cartography and empire, diffusion of Byzantine icons, and the ship as a mediator of cultural exchange.

254. (ARTH654) Global Renaissance and Baroque. (C)

Kim.

An introduction to transcultural encounters within and beyond early modern Europe, 1450-1600. Topics include: the theory and historiography of global art; artistic relations between Venice, the Byzantine and Ottoman Empires, and islands in the Eastern Mediterranean; Portugal's overseas mercantile network in Africa and Asia; and

the Baroque in Latin America, with emphasis upon Brazil. Our discussions focus on these paradigmatic case studies so as to question the language and terms we use to characterize confrontations between native and foreign, the self and the other.

258. (ARTH658) Early Modern Japanese Art and the City of Edo. (M) Davis.

Study of the major art forms and architecture of Tokugawa (or Edo) period (1603-1868). In this course, we will consider how the arts of this era occur within an increasingly urban and modern culture, particularly with regard to the city of Edo. Issues of the articulation of authority in the built environment, the reinvention of classical styles, and patronage will be raised. May include some visits to PMA, Penn Museum, or other local collections.

259. (ARTH659) Early Prints. (M) Silver.

History of prints in the period from about 1400 to Albrecht Durer (d 1528). Relation of early Northern and Italian woodcuts, engravings, and etchings to contemporary art forms - sculpture, painting.

261. (ARTH661) Northern Renaissance Art. (M) Silver.

Survey of the principal developments in Northern Europe during the "early modern" period, i.e. the transition from medieval to modern art-making during the fifteenth and sixteenth centuries. Principal attention to painting and graphics with additional consideration of developments in sculpture, particularly in the regions of the Netherlands and German-speaking Europe. Attention focused on the works of the following artists: Van Eyck, Bosch, Durer, Holbein, Bruegel, and on topics such as the rise of pictorial genres, urban art markets, Reformation art and art for the dynastic courts of emerging nation-states.

262. (ARTH662, DTCH261) Netherlandish Art. (M) Silver.

Dutch and Flemish painting in the 15th and 16th centuries with special emphasis on the contributions of Robert Campin, Jan van Eyck and Roger van der Weyden, Bosch, and Bruegel. Also included are topics on the development of prints as well as the dialogue with Italian art.

263. (ARTH663, DTCH230) German Art. (M) Silver.

This course will focus on paintings, prints, and sculptures produced in Germany around 1600. Principal attention will focus on the changing role of visual culture and

altarpieces but evolves into an era of "art," and collecting of pictures. German politics and religion will be examined in relation to the images. Cultural exchange with neighboring regions of Italy and the Low Countries is considered.

264. (ARTH664) Bruegel to Vermeer. (M) Silver.

Historical overview of the principal developments in Dutch painting and visual culture across the period of the Dutch Revolt (1568-1648) and beyond. Principal pictorial types, including landscape, portraits and group portraits, genre painting, still-life. Principal artists, including: Bruegel, Goltzius, Hals, Rembrandt, and Vermeer, as well as leading practitioners of each pictorial category. Consideration of cultural values inherent in such imagery, particularly against the background of Dutch society and religious diversity, along with the court culture and Catholic religiosity rejected by the national independence movement.

265. (ARTH665) Northern Baroque Art. (M) Silver.

Northern Baroque art comprises seventeenth-century paintings and prints from Flanders and Holland. Featured artists include: Pieter Bruegel, Hendrick Goltzius, Peter Paul Rubens, Anthony van Dyck, Frans Hals, Rembrandt, and Vermeer. Topics considered include innovations of various kinds--starting with portraits and society, landscapes, still-life, and scenes of daily life (genre pictures).

L/R 270. (ARTH670) The Modern City. (C) Brownlee, D.

A study of the European and American city in the eighteenth, nineteenth, and twentieth centuries. Emphasis is placed on the history of architecture and urban design; political, sociological, and economic factors also receive attention. The class considers the development of London, St. Petersburg, Washington, Boston, Paris, Vienna and Philadelphia.

L/R 271. (ARTH671) Modern Architecture, 1700-1900. (C) Brownlee, D.

The history of western architecture, ca. 1700-1900, when architecture was transformed to serve a world that had been reshaped by political and industrial revolutions. Topics to be considered include the Rococo, the English Garden, Palladianism, Romanticism, neo-classicism, the picturesque, the Greek and Gothic Revivals, and the search for a new style.

L/R 273. (ARTH673) History of Photography. (M) Staff.

A history of world photography from 1839 to the present and its relation to cultural contexts as well as to various theories of the functions of images. Topics discussed in considering the nineteenth century will be the relationship between photography and painting, the effect of photography on portraiture, photography in the service of exploration, and photography as practiced by anthropologists; and in considering the twentieth century, photography and abstraction, photography as "fine art", photography and the critique of art history, and photography and censorship.

274. (AFRC294, ARTH674, ASAM294, CIMS293) Facing America. (M) Shaw. Satisfies Cultural Diversity in the U.S. requirement.

This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We also investigate the ways that these creations have subsequently helped to launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.

L/R 275. (ARTH675) Revolution to Realism: European Art, 1770-1870. (C) Dombrowski.

This course surveys the major trends in European art of the tumultuous decades stretching from French Revolution of 1789 to the rise of realism in the mid-nineteenth century. Starting with Jacques-Louis David's revolutionary history paintings, we study Napoleonic representations of empire, Goya's imagery of violence, romantic representations of madness and desire, Friedrich's nationalist landscapes, as well as the politicized realism of Courbet. Some of the themes that are addressed include: the revolutionary hero, the birth of the public museum, the anxious masculinity of romanticism, the rise of industry and bourgeois culture, the beginnings of photography, the quest for national identity and, not least, the origins of the modernist painting. Throughout, we recover the original radicalism of art's formal and conceptual innovations at times of political and social crisis. We focus on the history of French painting, but include sculpture, photography, visual culture and the

development of the modern city, in England, Germany and Spain.

L/R 276. (ARTH676) Impressionism. (C) Dombrowski.

Impressionism opened the pictorial field to light, perception, science, modernity, bourgeoisie leisure and famously the material qualities of paint itself. This course will survey the movement's major contexts and proponents--Manet, Monet, Morisot, Cezanne, Gauguin, Van Gogh, Rodin--from its origins in the 1860's to its demise in the 1890's, as well as its subsequent adaptations throughout the world until World War I. Particular attention is paid to the artists' critical reception and the historical conditions which allowed one nation, France, to claim the emergence of early Modernism so firmly for itself. The course also analyzes the effects of the rapidly changing social and cultural fabric of Paris, and its affects on artistic developments. We also look outside of France's borders to Germany and Britain.

L/R 277. (ARTH677) The Rise of Modernity: Arts of the 19th Century. (M) Brownlee, Dombrowski.

The nineteenth century is often considered as fast-paced, politically volatile and new-media obsessed as our own age. This course explores the nineteenth century's claim to have produced the first truly modern culture, focusing on the visual arts and metropolitan spaces of Europe and North America in their intellectual and social contexts. Stretching from the American and French Revolutions to the eve of World War I, topics to be covered include: the rise of capitalist and industrialist culture, art and revolutionary upheaval, global travel and empire, the origins of modernist art and architecture, and new media such as stereoscopes, iron and glass construction, and photography. Major artistic personalities of the age, from Jacques-Louis David and Gustave Courbet to Claude Monet and Vincent Van Gogh, and from Friedrich Schinkel and, Baron Haussmann to Frank Furness and Frank Lloyd Wright, are discussed. Each lecture will be followed by a brief period of discussion, and regular field trips take students to examine art and architecture first hand, in the museums and on the streets of Philadelphia.

278. (ARTH678) American Art. (M) Leja, Shaw. Satisfies Cultural Diversity in the U.S. requirement.

This course surveys the most important and interesting art produced in the United States (or by American artists living abroad) up through the 1950s. This period

encompasses the history of both early and modern art in the U.S., from its first appearances to its rise to prominence and institutionalization. While tracking this history, the course examines art's relation to historical processes of modernization (industrialization, the development of transportation and communications, the spread of corporate organization in business, urbanization, technological development, the rise of mass media and mass markets, etc.) and to the economic polarization, social fragmentation, political conflict, and the cultural changes these developments entailed. In these circumstances, art is drawn simultaneously toward truth and fraud, realism and artifice, science and spirituality, commodification and ephemerality, nationalism and cosmopolitanism, individualism and collectivity, the past and the future, professionalization and popularity, celebrating modern life and criticizing it.

280. (ARTH680) 20th Century East Asian Art. (M) Davis.

This course reconsiders modern and contemporary art in China, Japan and Korea over the course of the twentieth century. The confrontations between modernity and tradition, state and self, the colonizer and the colonized, and collecting and the market are among its themes. The course begins with a study of the way modern art was defined at the turn of the 20th century, the promotion of oil painting and the call to preserve national styles, and the use of art at world's fairs. The avant-garde pursuit of individuality, state-sponsored modernism, the use of art as propaganda in WWII and Communist Revolution, and the place of Chinese, Korean and Japanese art in the contemporary market are also topics covered in this course.

L/R 281. (ARTH681) Modern Architecture, 1900-Present. (C) Brownlee.

The architecture of Europe and America from the late nineteenth century until the present is the central subject of this course, but some time is also devoted to Latin American and Asian architecture and to the important issues of modern city planning. Topics discussed include the Arts and Crafts movement, Art Nouveau, Expressionism, Art Deco, the International Style, and Post-modernism. The debate over the role of technology in modern life and art, the search for a universal language of architectural communication, and the insistent demand that architecture serve human society are themes that are traced throughout the course. Among the

important figures to be considered are Frank Lloyd Wright, Walter Gropius, Le Corbusier, Louis Kahn, Robert Venturi, and Denise Scott Brown. The course includes weekly discussion sessions and several excursions to view architecture in Philadelphia.

L/R 286. (ARTH686) Modern Art: Picasso to Pollock. (C) Poggi.

Early twentieth-century art in Europe is marked by a number of exciting transformations. This period witnessed the rise of abstraction in painting and sculpture, as well as the inventions of collage, photomontage, constructed sculpture, the ready made and found object, and performance art. Encounters with the arts of Africa, Oceania and other traditions unfamiliar in the West spurred innovations in media, technique, and subject matter. Artists began to respond to the challenge of photography, to organize themselves into movements, and in some cases, to challenge the norms of art through "anti-art." A new gallery system replaced traditional forms of exhibiting and selling art, and artists took on new roles as publicists, manifesto writers, and exhibition organizers. This course examines these developments, with attention to formal innovations as well as cultural and political contexts.

288. (ARTH688) Modern Design. (M) Marcus.

Modern Design surveys the development of useful and decorative objects from the rise of modernism at the beginning of the nineteenth century to its rejection in postmodernism toward the end of the century, from the early stages of industrial technology to recent advances in digital technology, from Tiffany glass and tubular-metal furniture to the iPhone and other products of today. Its overall approach focuses on the aesthetics of designed objects and on their designers, as well as on how we talk about and critique them, but the course also investigates the relationship of design and industrialization, technology, sustainability, individual needs, and the expression of societal values.

L/R 290. (ARTH690, CIMS223) Post War Japanese Cinema. (M) Davis.

Mizoguchi Kenji, Ozu Yasujiro, and Kurosawa Akira are recognized today as three of the most important and influential directors in Japanese cinema. In their films of the late 1940s and 1950s, these directors focused upon issues surrounding the human condition and the perception of truth, history, beauty, death, and other issues of the postwar period. This course places

their films in period context, and pays particular attention to the connections to other visual media, and to how "art" and "history" are being defined in the cinematic context. How other directors also took up these issues, and referred to the "big three" is also be discussed.

SM 292. (CIMS278, ENGL278) Topics in Digital/New Media. (M) Staff.

Topic varies.

Spring 2015: Documents are written texts, evidence, inscriptions, and much more. Documentary films have been used to tell stories, share experiences, spread propaganda, resist exploitation, invoke memories, and much more. How can we think of information and meaning in relation to the shared histories of document and documentary? Database management systems based on digital technologies have technically transformed ways of classifying, storing, and aggregating data, but have they really changed our experiences of mediating with our past, present, and future? Issues of agency, memory, representation, performativity, interactivity, and posthumanism are entangled in discussions of databases and archives and our engagement with them. In this course we will relate and juxtapose readings connecting documents, documentaries, and archives. We will read media and cultural theorists such as Lisa Gitelman, Akira Lippit, and Wendy Chun alongside novelists like Franz Kafka and Ismail Kadare. Assignments include one assigned/selected report from field visits to libraries and museums, one reading presentation and blogging assignment, and a final paper or practice-based art project.

SM 293. (AFRC296, CIMS295, COML295, ENGL295) Topics in Cultural Studies. (M) Beckman, Corrigan.

This topic course explores aspects of Film Cultural Studies intensively. Specific course topics vary from year to year. See the Cinema Studies website at <<http://cinemastudies.sas.upenn.edu/>> for a description of the current offerings.

L/R 294. (ARTH694, ENGL059, GSWS294, VLST236) Art Now. (B) Silverman.

One of the most striking features of today's art world is the conspicuous place occupied in it by the photographic image. Large-scale color photographs and time-based installations in projections are everywhere. Looking back, we can see that much of the art making of the past 60 years has also been defined by this medium, regardless of the form it takes. Photographic images have

inspired countless paintings, appeared in combines and installations, morphed into sculptures, drawings and performances, and served both as the object and the vehicle of institutional critique. They are also an increasingly important exhibition site: where most of us go to see earthworks, happenings and body-art. This course is a three-part exploration of our photographic present.

L/R 296. (ARTH696) Contemporary Art. (B) Poggi.

Many people experience the art of our time as bewildering, shocking, too ordinary (my kid could do that), too intellectual (elitist), or simply not as art. Yet what makes this art engaging is that it raises the question of what art is or can be, employs a range of new materials and technologies, and addresses previously excluded audiences. It invades non-art spaces, blurs the boundaries between text and image, document and performance, asks questions about institutional frames (the museum, gallery, and art journal), and generates new forms of criticism. Much of the "canon" of what counts as important is still in flux, especially for the last twenty years. And the stage is no longer centered only on the United States and Europe, but is becoming increasingly global. The course will introduce students to the major movements and artists of the post-war period, with emphasis on social and historical context, critical debates, new media, and the changing role of the spectator/participant.

Undergraduate Seminars & Independent Study

SM 300. Undergraduate Methods Seminar. Staff.

Topic varies.

SM 301. (CIMS263, ENGL263, GSWS301, ITAL300) Undergraduate Seminar. (C) Meister, Holod, Brownlee, Poggi, Haselberger, Kuttner, Davis, Maxwell, Pittman, Silver, Beckman, Leja, Shaw, Dombrowski, Ousterhout, Silverman. Undergraduate Major Preference.

Topic varies.

SM 303. (CLST303) Introduction to Museums. (C) Staff.

This course introduces students to the history, theory and modern practice of museums. Using the resources of the Penn Museum, the course discusses curatorial practice, education, exhibition design and conservation, while exploring the theoretical and ethical issues confronted by

museums. Particularly relevant for those interested in archaeology, anthropology, art history, cultural heritage and public education.

SM 304. (VLST303) Rise of Image Culture. Staff.

Images are ubiquitous in the cultural life of the 21st century, yet only two centuries ago they were rare. When and how did pictures come to permeate daily life? How has ordinary experience--psychological, social, cultural, intellectual--changed as a result? This seminar addresses these questions through close reading of influential historical and theoretical writings about the rise of image culture and its effects, including Benjamin, Debord, McLahan, Mitchell.

SM 312. (ARTH512, SAST312) Topics in Indian Art. Meister.

Topic Varies.

Spring 2015: Using resources of the Philadelphia Museum of Art's exceptional collection, this workshop will explore India's remarkable traditions of sculpture produced for singular narrative and iconic ends.

SM 313. (EALC353, GSWS313) Topics in E. Asian Art. (M) Davis.

Topic varies.

Fall 2016: Yayoi Kusama is arguably the most influential artist to emerge from Japan in the period following World War II. Arriving in New York City in 1958, she exhibited with Andy Warhol, Donald Judd, Claes Oldenburg, among others, during their formative years. Beginning in 1960, she also exhibited with Zero group in Europe. This seminar will comparatively examine postwar developments in Japan, The U.S., and Europe, until about 1969, and investigate how Kusama's race, gender, and the particular time period have distinctively shaped her work. By focusing on a transnational Japanese woman artist, it will explore new ways of looking at postwar art history through the periphery and with a focus on globalization.

SM 325. (CLST341) Topics in Greco-Roman Art. (M) Kuttner.

Topic varies.

Greco-Roman antiquity did not name a category called "mythology" that conflated, as we do now, their religion with stories about gods, heroes, and the peoples of their own imagined deep past. But even if this notion of Classical mythology is post-antique, that's interesting in itself; we are free to look at the response to such myths in the art of cultures post-dating Mediterranean antiquity, worshipping

different gods, yet still fascinated by the legacy of Greece and Rome. That rich body of material was sometimes even directly inspired by ancient images and texts. We will look in this seminar at how a range of post-Classical artists and viewers from Late Antiquity to the contemporary moment have creatively exploited Greco-Roman "myth" to think about themselves and their own worlds; that will sometimes let us look, too, at the interplay between art and text. The resources of the Philadelphia Museum of Art will be utilized. No prerequisites; it's recommended that students have completed their sophomore year. Of especial interest to students in ArH, ClSt, RelSt, Hist, VisSt, Anthro, Fine Arts, and the literature departments.

SM 328. (CLST342) Topics in Greek Architecture. (M) Haselberger.

Topic varies.

SM 329. (CLST325) Topics in Roman Art and Architecture. (C) Staff.

Topic varies.

Fall 2016: In this seminar we will examine key episodes in the development of architecture and urban design in ancient Rome. We will proceed chronologically so that changes to the city and its physical remains can be seen in the broader political, economic, and social context. We will also examine the effect that the landscape and geology had on building materials and architectural expression and how this changed as trade networks focused on Rome expanded during the imperial period. Whenever possible we will take advantage of materials in collection of the University of Pennsylvania Museum.

SM 332. Topics in Byzantine Art. (M) Ousterhout.

Topic varies.

SM 333. Topics in Byzantine Architecture. (M) Ousterhout.

Topic varies.

SM 335. Topics in Islamic Art. (C) Holod.

Topic varies.

SM 340. Topics in Medieval Art. (M) Staff.

Topic varies.

SM 350. Topics in Southern Renaissance Art. (M) Kim.

Topic varies.

SM 351. Topics in Early Modern Art Theory. (M) Kim.

Topic varies.

Spring 2016: What does it mean to write about art? What are the historical origins of this undertaking? How does language mediate the intellectual, somatic, and cultural rapport between the viewing self and the physical object? As an initial response to these questions we will examine the writings of the Tuscan artist and critic Giorgio Vasari (1511-1574), the biographer of such renowned artists as Leonardo, Raphael, Donatello, and Michelangelo. In addition to considering works of art described in Vasari's accounts, we will pay close attention to his language and its relationship with other types of writing: saints lives, chronicles, legends, guidebooks, anecdotes, jokes, gossip, and sermons. Issues to be explored include: the process of craft and handwork, notions of genius and inspiration, and the relationship between the visual arts and natural environment.

SM 360. Topics in Jewish Art. (M) Silver.

Topic varies.

SM 362. (DTCH262) Topics in Northern Baroque. (M) Silver.

Topic varies.

Spring 2016: Undergraduate seminar focusing on all aspects of the life and works of Rembrandt van Rijn (1606-1669). Students will produce a research paper on any aspect of the artist's life and times, and course sessions will explore self-portraits, artistic development, specific painting types (figure studies, landscapes, portraits), case study individual works (the Paris Bathsheba and the Philadelphia Museum Head of Christ), mythologies, religious works, and the etchings of Rembrandt. Weekly discussions--one short analysis paper in addition to the term research paper.

SM 371. Topics in 19th Century Architecture. (C) Brownlee, D.

Topic varies.

SM 375. Topics in 19th Century Art. Dombrowski.

Topic varies.

Spring 2016: This seminar will place Edouard Manet's influential paintings within the context of modern Paris, the French Empire and the city's increasingly global reputation in the late 19th century. We will study the most prominent Parisian sites associated with the rise of modernity as well as the global reach of the "myth" of modern Paris throughout the world, in

Japan, the U.S., Latin America, the Middle East, among other destinations. The Eiffel Tower, shopping arcades, department stores (like the Bon Marche), boulevards, sewers, catacombs and world's fair grounds (including their artistic and popular representations) will be analyzed, as well as their global reception. We will study paintings by Manet, Monet and others, in order to get a better understanding of why the city of Paris is often named the birthplace of modernist art. Students are expected to have at least some background in art history, visual studies and French.

SM 381. Topics in 20th Century Architecture. (M) Brownlee, D.

Topic varies.

SM 386. Topics in 20th Century Art. (M) Poggi.

Topic Varies.

SM 388. Topics in Modern and Contemporary Art. (M) Shaw.

Topic varies.

SM 389. (AFRC392, CIMS392, COML391, ENGL392, SLAV392) Topics in Film Studies. (M) Staff.

This topic course explores aspects of Cinema Studies intensively. Specific course topics vary from year to year. See the Cinema Studies website at <<http://cinemastudies.sas.upenn.edu/>> for a description of the current offerings.

SM 391. (CIMS201, ENGL291) Topics in Cinema and Media. (M)

Specific course topics vary from year to year. See the Cinema Studies website at <<http://cinemastudies.sas.upenn.edu/>> for a description of the current offerings.

SM 393. (AFRC393, CIMS393, GSWS394) Topics in Film Studies. (M) Redrobe.

Topic varies.

Spring 2017: Resonating with the Provost's Year of Media, this course will examine the ideologies of race, sex and gender as they emerged in early cinema, and will consider films from 1895 through the beginning of the sound period. In addition to considering early cinema in relation to other media of the period, asking how cinema compares to its predecessors and peers, we will also consider these early twentieth century issues in comparison with our own media moment. Though the focus will largely be on films within an American context, we will also consider early cinema within an international framework, asking what early means in different cultural contexts. The course will include the work

of Edison, Griffith, DeMille, Micheaux, among others; will consider stars like Rudolph Valentino and Anna May Wong; and will examine the cinematic representation of fears regarding such things as white slavery, miscegenation, immigration, the new woman, and contagious queerness; and will explore the way that interlocking ideologies shape and are in turn shaped by the developing medium of film.

The course will include a trip to Thomas Edison's home and laboratory in West Orange, New Jersey, and will make use of the rare media resources housed in the collections of Penn's cultural centers. Students will have the opportunity to apply for grants to support a research trip to the Library of Congress's Paper Print Collection in Washington D.C. or to other early cinema archives. There are no prerequisites for this course, which is an ideal venue for developing college-level research skills, and / or for doing preliminary research that could lead to a senior thesis project. Course requirements: complete all assigned readings and films; attendance; active participation in class discussion; midterm examination; final research paper (10 pages) + bibliography.

SM 394. Topics in Contemporary Art. (M) Silverman.

Topic varies.

SM 396. (ENGL290, GSWS395) Topics in Gender and Sexuality in Modern and Contemporary Art. (M) Poggi.

Topic varies.

397. Senior Project in Architectural History. (C) Holod. Permission of instructor required.

Topic varies.

398. Senior Thesis. (E) Prerequisite(s): Permission of instructor required. See department for appropriate section numbers.

399. Independent Study. (C) See department for appropriate section numbers.

Intermediate Courses

427. (AAMW427, CLST427) Roman Sculpture. (M) Kuttner, Rose.

Survey of the Republican origins and Imperial development of Roman sculpture - free-standing, relief, and architectural - from ca. 150 BC to 350 AD. We concentrate on sculpture in the capital city and on court and state arts, emphasizing

commemorative public sculpture and Roman habits of decorative display; genres examined include relief, portraits, sarcophagi, luxury and minor arts (gems, metalwork, coinage). We evaluate the choice and evolution of styles with reference to the functions of sculptural representation in Roman culture and society.

428. (AAMW428) Hellenistic Art and Spectacle. (M) Kuttner.

Hellenistic usually names art in the age of Mediterranean culture from the 4th century BCE and the rise of Alexander the Great's Macedon, and the Greco-Macedonian conquest of the Persian Empire, to Cleopatra of Egypt's defeat by Rome at the end of the Republic. Our course looks also at the age of Augustus and his successors, 1st century CE. While Greek and Macedonian practice in city-states and kingdoms is our launching point, this course also looks at international culture and cultural interaction among peoples from North Africa and Etrusco-Roman Italy, Egypt, (Etrusco) Anatolia, the Mideast and Central Asia. We probe art, artifacts, and visual display from a range of settings, from sanctuary to house, palace and parade, and in all media, from marble monuments to pottery and jewelry. Our archaeology of Hellenistic visual culture also looks at the rich body of Hellenistic and Roman texts of art history, art criticism, and the description of objects and image, to better understand the Hellenistic maker, patron, and viewer. No prerequisites. It is desirable for undergraduates to have experience of research. Of interest to students in AAMW, ARTH, ANCH, CLST, VLST, NELC, RELS and ANTH.

432. (AAMW432) Early Christian and Byzantine Architecture. (C) Ousterhout.

Architecture and its decoration from Early Christian times in East and West until the sixth century A.D., and in the Byzantine lands until the Turkish Conquest.

435. (AAMW435, COML415, NELC489) Medieval Islamic Art & Architecture. (M) Holod.

An introduction to the major architectural monuments and trends, as well as to the best-known objects of the medieval (seventh-to fourteenth-century) Islamic world. Attention is paid to such themes as the continuity of late antique themes, architecture as symbol of community and power, the importance of textiles and primacy of writing. Suitable for students of literature, history, anthropology as well as art history.

436. (AAMW531, COML417, NELC436, RELS440) Later Islamic Art and Architecture. (M) Holod.

Istanbul, Samarkand, Isfahan, Cairo and Delhi as major centers of art production in the fourteenth to seventeenth centuries. Attention is given to urban and architectural achievement as well as to the key monuments of painting and metalwork. The visual environment of the "gunpowder empires" is discussed.

500-Level Seminars

SM 500. Problems of Interpretation. (M) Silver.

Consideration of the problems of definition, analysis, and interpretation of artworks, chiefly painting, sculpture and graphic arts. Topics for consideration will include: the changing status of the artist, sites of visual display, the relationship between art and authority, the representation of cultural difference (including both national/ethnic and gender difference), and the "art for art's sake"; purposes of "modernism." Requirements will consist of short analytical papers on visual images as well as on class readings, comprised of some primary texts and samples of scholarship. Principal texts will derive from the Open University series "Art and its Histories" (Yale University Press).

SM 501. (AAMW509, AFRC501, NELC501) Curatorial Seminar. (M) Staff.

Curatorial seminars expose students to the complexity of studying and working with objects in the context of public display. With the guidance of faculty and museum professionals, students learn what it means to curate an exhibition, create catalogues and gallery text, and/or develop programming for exhibitions of art and visual/material culture.

Fall 2016: The Penn Museum has undertaken a major renovation and reinstallation of its world renown collection of archaeological, historical and ethnographic materials from the Middle East. This seminar will prepare special study units on several aspects of the collection which will be presented through web-based technology. The themes that will be investigated in this seminar will be organized around the Human Body, focusing on housing the body, feeding the body and clothing the body. Drawing directly on objects in the collections students will develop guided explorations to aspects of those themes.

SM 503. (CIMS530, COML529, GRMN580) Proseminar in Art History. (C) Staff.

Topic varies.

SM 504. (CIMS530, COML529) Proseminar in Art History. (C) Staff.

Topic varies

505. (AFRC573, CIMS502, COML510, GSWS574, THAR475) Masters in Liberal Arts Proseminar. (M) Staff.

Topic varies.

SM 510. Topics in Indian Architecture. (M) Meister.

Topic varies.

SM 511. (SAST505) Topics in Indian Art. (C) Meister.

Topic varies.

Fall 2016: Important as texts have been to South Asia's history, perceptions of the physical world dominate experience within South Asian cultures. Seeing and being seen, vocalizing and hearing, contribute to the construction of meaning. This pro-seminar will approach South Asia's perceptual world as expressed and tested by art, and methods to frame art as a source of knowledge.

SM 513. Ukiyo-e: Japanese Prints and Paintings. (M) Davis.

Topic varies.

SM 514. Topics in East Asian Art. (C) Davis, Steinhart.

Topic varies.

Spring 2017: In this seminar, led by Hiromi Kinoshita, The Hannah L. and J. Welles Henderson Associate Curator of Chinese Art, Philadelphia Museum of Art, students will learn about the considerations of a gallery reinstallation relating to the presentation of the Chinese collections at the Philadelphia Museum of Art. With more than 7,000 objects spanning from the Neolithic to the present, the reinstallation aims to display highlights and strengths of the collection that include early ceramics, porcelains, sculpture, furniture and architectural interiors with paintings and textiles. Students will study original objects of different media from the collection and learn about curatorial practices that include examination and analysis, connoisseurship, exhibition layout and label writing. Previous knowledge of Chinese art history and culture would be advantageous.

SM 515. (EALC535) Topics in Japanese Art. (M) Davis.

Topic varies.

Spring 2016: In this seminar we will take a closer look at the prints, paintings, and illustrated books produced by one of ukiyo-e's most famous artists, Kitagawa Utamaro (1753?-1806), with special focus upon works to be included in an upcoming exhibition. We will begin by surveying the larger history of the pictures of the floating world (ukiyo-e) and pay close attention to Utamaro's teacher and his contemporaries. The status of the artist, the role of the publisher, networks of possible patrons, and Utamaro's legacy are among the key issues the seminar will address. Our analysis will further attend to the ways in which works by Utamaro and other ukiyo-e artists were evaluated and appreciated in late 19th-century France by such figures as Edmond de Goncourt, Hayashi Tadamashi, and Siegfried Bing, among others. Students will have the opportunity to study works in local and regional collections, including the Kislak Center, the Philadelphia Museum of Art, and the Freer/Sackler Galleries. Undergraduate students admitted by permission only.

SM 518. (AFRC516) Art of Iran. (M) Staff.

Topic varies.

SM 520. (AAMW520) Topics in Aegean Bronze Age. (M) Staff.

Topic varies.

Fall 2016: Minoan and Cycladic Wall Paintings are considered a hallmark of the Aegean Bronze Age Civilization. Often, these paintings are discussed in terms of their iconography but in isolation of their archaeological contexts. In this class, we will examine both with the goal of determining what types of paintings are used in houses, palaces, defensive structures, and buildings of undetermined function, as well as examining their pictorial programs and iconographic interpretations. With the recent study of Minoan-style wall paintings in Egypt and the Ancient Near East, the question of the spread of Minoan and Cycladic techniques and motifs must also be considered, along with the archaeological contexts at these non-Aegean sites. We will have class discussions of assigned readings.

SM 522. (AAMW522) Topics in Ancient Iranian Art. (M) Pittman.

Topic varies.

SM 523. (AAMW523) Topics in Art of Ancient Near East. (M) Pittman.

Topic varies.

SM 525. (AAMW525, CLST521) Topics in Greek and Roman Art. (M)

Kuttner, Brownlee, A.

Topics Varies.

Spring 2017: In 312 when emperor Constantine can be said to have inaugurated a Christian empire, Roman visual culture was many centuries old, and foundational elements of Late Antique art already established. Between ca. 200 and 700 CE Greco-Roman art was transformed, to create the Medieval, Byzantine and Islamic visual traditions. From Trier and Ravenna to Antioch and Aphrodisias, rulers and subjects, elites and ordinary people, and even foreign conquerors cared to maintain Roman civilization. That cultural legacy included both a drive towards innovation and a passion for maintaining tradition (we will contest narratives of Late Antique art's 'decline'); meanwhile, from the 3rd c. onwards, Christianity challenged and changed many roles of Roman images.

This proseminar's interdisciplinary approach ranges the broadest possible range of media and contexts for the decoration of sacred, Imperial, domestic, funerary and civic space with old and new forms and styles of artifacts and images, ranging from silver, ivory, coin and textile to monumental mosaics and statuary. In analyzing the forms of agency wielded by images, monuments and artifacts, we also look at the rich corpus of Late Antique texts on art, objects, space and viewership. We will also look outside the Late Roman empire's frontiers in time and space to cultures on its borders and the early Islamic, 'barbarian' and Sasanian worlds.

Open to advanced undergraduates by permission of the instructor. Of especial interest to students in ARTH, CLST, AAMW, ANCH, RELS. Prior experience with history of art and archeology or with the topic culture are not required.

SM 528. (AAMW528) Topics in Classical Architecture. (M)

Haselberger.

Topic varies.

SM 529. (AAMW529, CLST528) Topics in Roman Architecture. (M)

Haselberger.

Topic varies.

SM 530. (AAMW530) Vitruvian Studies. (M) Haselberger.

Topic varies.

SM 531. Topics in Neoclassical Architecture. (M) Haselberger.

Topic varies.

SM 532. Topics in Byzantine Art. (M) Ousterhout.

Topic varies.

SM 535. (AAMW535) Topics in Islamic Epigraphy. (M) Holod.

Topic varies.

SM 536. Topics in the Islamic City. (M) Holod.

Topic varies.

SM 537. (AAMW537, NELC617) Topics in the Art of Iran. (M) Holod.

Topic varies.

SM 538. (AAMW538) Topics in the Art of Andalusia. (M) Holod.

Spring 2016: This pro-seminar will investigate the nature of Cordoba as the capital of the Umayyad realm in Iberia. Topics discussed will include: city and its suburbs, villas as loci of cultural production, the role of the congregational mosque, the city vs. the palace city of Madina al-Zahra. Knowledge of Spanish and/or Arabic desirable, but not necessary.

SM 540. (HIST536, RELS536) Topics in Medieval Art. (M) Staff.

Topic varies.

SM 541. (AAMW541) Topics in Early Medieval Architecture. (M) Staff.

Topic varies.

SM 550. (GSWS552) Topics in Southern Renaissance Art. (M) Kim.

Topic Varies.

Spring 2015: What makes up a world? How do works of art exist in, conceive, and represent a place? How might the theory and practice of art shed light on our notions of the earth, ground, landscape, soil, and the environment? This seminar will ask the above questions with respect to works of art and art literature from the fourteenth to eighteenth centuries. Topics to be explored may include: theories of stone in the Renaissance, the environmental implications of excavation, the materials and materiality of earth and soil, stonecutting and mining, the aesthetic problem of weight, architecture on bodies of water, and the Lisbon Earthquake of 1755 and other geological disasters. Guests to the seminar from the University of Paris-IV and the University of Zurich will offer opportunities for students to discuss and present their ideas to extramural audiences. Upper level course.

SM 551. Topics in Early Modern Art Theory. (M) Kim.

Topic varies.

SM 553. Topics in Southern Baroque Art. (M) Kim.

Topics varies.

SM 561. (GRMN578) Topics in Northern Renaissance. (M) Silver.

Prerequisite(s): ARTH-102 Prerequisite.

Topic varies.

Spring 2017: This seminar will focus on the history and interpretation of Dutch and Flemish painting, particularly the seeming "realism" of landscape, still-life, and genre scenes as well as some of the major figures of the period for their distinctive contributions (including Rubens and Rembrandt, but not dominated by them): Jan Brueghel, Frans Hals, Jan Steen, Jacob van Ruisdael, David Teniers, Jan Vermeer, and others. Who were the consumers of such works? How did the burgeoning market for inexpensive art in the form of paintings on canvas and prints affect production and types of art? How can we understand these works in their original urban, middle-class setting?

Prerequisites: at least Art History 102 and its equivalent; non-majors should seek instructor approval. Requirements: short analysis paper of work on view at the Philadelphia Museum of Art (5-7 pages); full-scale term paper, requiring library research.

SM 562. Northern Renaissance Art. (M) Silver.

Topic varies.

SM 563. (GRMN542) Topics in German Art. (M) Silver.

Topic varies

SM 565. (DTCH579, GRMN589) Topics in Northern Baroque Art. (M) Silver.

Topic varies.

Fall 2015: Built around an exhibition at the Philadelphia Museum of Art, focused on the "Prometheus" by Peter Paul Rubens, this seminar will investigate the range of painted and sculpted works on Greco-Roman myths in European art and will also investigate the career of Peter Paul Rubens, particularly concerning myths.

SM 571. Modern Architectural Theory. (C) Brownlee.

A survey of architectural theory from the mid-eighteenth century to the present. The discussion of original writings will be emphasized.

SM 572. (VLST540) Topics in Visual Culture. (M) Leja.

Topic varies.

SM 574. Topics in American Visual Culture. (M) Shaw.

Topic varies.

SM 575. Topics in 19th Century Art. Dombrowski.

Topic varies.

Spring 2016: This seminar considers the concepts of time crucial to the rise of modern painting in the 19th century, from historical time, leisure time and perceptual time to labor and mechanical time. Too rarely has the history of time and time-keeping, from the industrialization of time to the advent of universal time been used as a tool in the study of modernist painting (as opposed to say the moving image) except perhaps in terms of chronology. To that end, we will think through, as aesthetic categories, the concept of the moment, the instant, the impression, the now, the shock, and also seriality and narrative sequence, and consider painting's oft-cited competition with the camera's evolving shutter speeds. Beside the key art historical literature, we will read extensively in both the cultural history of time and perception (Kern, Galison, Koselleck, Crary) and the aesthetic philosophy of time from Lessing to Deleuze (including Nietzsche, Blanqui, Bergson, Durkheim, Benjamin, Kubler, among others).

SM 578. Topics in 19th Century American Art. (M) Leja, Shaw.

Topic varies.

Fall 2015: This course will provide a survey of media traditionally grouped under the category of decorative arts furniture, silver, ceramics, glass made in the United States from the beginnings of European settlement to the end of the nineteenth century. The class format will be part lecture and part discussion, the latter centered on close examination of objects from the collection of the Philadelphia Museum of Art. When possible, the discussion will focus on objects made in Pennsylvania and especially Philadelphia, emphasizing the city and region's central role over three centuries of American art history. Different methodologies of approaching object study will also be explored. No prior knowledge of the subject is expected.

SM 581. (ARCH712) Topics in 20th Century Architecture. (M) Brownlee.

Topic varies.

SM 585. Topics in 19th Century Art. (C) Staff.

Topic Varies.

Spring 2015: Birthplace of the nation, industrial metropolis-Philadelphia is the definitive American "place." This seminar will explore the visual history of the city as a symbolic site described and defined by painters, printmakers and photographers as well as politicians and capitalists and most importantly, its residents. How and why were certain sites selected and exploited within an evolving civic iconography? How did Philadelphia's visual culture influence approaches to placemaking? And how did artists navigate the increasingly complex political and social as well as aesthetic conflicts between myth and reality?

SM 586. (CIMS500, COML586) Topics in 20th Century Art. (C) Poggi.

Topic varies.

SM 588. Topics in 20th Century American Art. (M) Shaw.

Topic varies.

SM 593. (CIMS590, COML599, ENGL593, GSWS594) Topics in Cinema & Media. (M) Beckman.

Prerequisite(s): Permission of Instructor for Undergraduates.

Spring 2016: Taking its title from a recent special issue in the journal *Framework*, this seminar will engage the where of film and media theory. At a moment when this discourse, often presumed to have roots in Anglo and Western European traditions, is purportedly undergoing a global turn, we will consider how some of film and media theory's key terms and preoccupations including realism, documentary, genre, identity, sound, spectatorship, nation, auteur, and screens are being inflected by expanded geographic, linguistic, aesthetic and cultural frames. We will grapple with some of the logistical challenges, motivations, resistances, and questions that scholars encounter as they attempt to shift film and media theory's borders; compare contemporary efforts to broaden the discourse's geographic horizon with earlier efforts to do the same; and consider what happens to the viewer's sense of space and place in different media environments. Course requirements: full participation in readings, screenings, discussion, and class presentations; 20-25 page research paper + annotated bibliography. Permission of instructor required for advanced undergraduates.

SM 594. (CIMS594, COML594, ENGL797) Topics in Contemporary Art. (M) Silverman.

Topic varies.

SM 596. (CIMS596) Topics in Contemporary Art. (C) Poggi, Bersani.

Topic varies.

Spring 2017: Our lives depend on our receptivity: from the very beginning, to the air we breathe, to the food we ingest, to the sleep we submit to. We will consider modes of receptivity to both external and internal stimuli. - Sexual receptivity: sex and love; sex and exchange; pleasure in suffering pain and inflicting pain. - Receiving our identity from networks of power. Agreeing to being psychically and socially named. Resistance. - How might receptivity function outside the subject-object model of relations with the world? - Receiving death. What do we gain by continuing to live? - Plato, Freud, Bourdieu, Sloterdijk; Proust, H. James, Duras, Melville; films: Bergman (*Persona*), Dumont (*Humanite*), von Trier (*Breaking the Waves* and *Melancholia*); Pasolini (*Salo*).

600-Level Courses**SM 602. (ARTH202) Mycenae, Pylos, and Troy. (M)** Staff.

The Iliad of Homer recounts the tale of a great war fought by Greek and Trojan armies before the walls of Troy's lofty citadel. This foundation epic of Western literature tells of gods, heroes, and magical places already part of deep past when Homer's work was set to writing, ca. 700 B.C. Does the Homeric story of the Trojan War have a basis in real events? Scholars have long pointed to the Mycenaean civilization, which flourished on the mainland of Greece in the Late Bronze Age (ca. 1600-1200 B.C.), as the inspiration for the Homeric stories. In this course, we examine the archaeology of the great centers of the Late Bronze Age in Greece and Anatolia, particularly Mycenae, Pylos, and Troy. Our main aim is to better understand the social, political, and economic context of this Late Bronze Age world, which may shed light on the possibility that a "Trojan War" of some kind actually occurred. The primary focus on archaeology is supplemented by readings from Homer's Iliad and Odyssey.

609. (AFST218, ARTH209) African Art. (M) Staff.

This selective survey examines a variety of the circumstances of sub-Saharan African art, ranging from imperial to nomadic

cultures and from ancient times to contemporary participation in the international market. Iconography, themes and style will be considered, as will questions of modernity, religious impact, tradition and colonialism.

SM 611. (ARTH211) Art in India. (M) Meister.

A survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C. to the nineteenth century. An attempt to explore the role of tradition in the broader history of art in India.

612. (ARTH212, SAST201, SAST501) Cities and Temples in Ancient India. (M) Meister.

The wooden architecture of ancient India's cities is represented in relief carvings from Buddhist religious monuments of the early centuries A.D. and replicated in remarkable excavated cave cathedrals. This course will trace that architectural tradition, its transformation into a symbolic vocabulary for a new structure, the Hindu temple, and the development of the temple in India from ca. 500-1500 A.D.

L/R 613. (ARTH213, EALC157, EALC557) Arts of Japan. (M) Davis.

This course introduces the major artistic traditions of Japan, from the Neolithic period to the present, and teaches the fundamental methods of the discipline of art history. Special attention will be given to the places of Shinto, the impact of Buddhism, and their related architectures and sculptures; the principles of narrative illustration; the changing roles of aristocratic, monastic, shogunal and merchant patronage; the formation of the concept of the artist over time; and the transformation of tradition in the modern age.

L/R 614. (ARTH214, EALC127, EALC527) Arts of China. (M) Steinhardt, Davis.

The goals of this course are to introduce the major artistic traditions of China, from the Neolithic period to the present and to teach the fundamental methods of the discipline of art history. Our approaches will be chronological, considering how the arts developed in and through history, and thematic, discussing how art and architecture were used for philosophical, religious and material ends. Topics of study will include: Shang bronzes: Han concepts of the afterlife; the impact of Buddhism; patronage and painting; the landscape tradition; the concept of the literatus; architecture and garden design;

the "modern" and 20th-century artistic practices; among others.

615. (ARTH215) Japanese Painting. (M) Davis.

An investigation of Japanese painting and practice from the earliest pictorial representations through the late twentieth century. Painting style and connoisseurship form the basis of analysis and themes such as landscape, narrative, and the expression of cultural identities in painting are considered in the context of larger social and cultural issues. Topics include: tomb painting, Heian development of "yamato-e," ink painting and the adaptation of Chinese styles, the expansion of patronage in the 18th century, and the turn toward internationalism in the late 19th and 20th centuries. May include visits to the PMA or other local collections, as available.

617. (ARTH217, EALC227, EALC627) Chinese Painting. (M) Steinhardt.

Study of Chinese painting and practice from the earliest pictorial representation through the late twentieth century. Painting style forms the basis of analysis, and themes such as landscape and narrative are considered with regard to larger social and cultural issues. The class pays particular attention to the construction of the concepts of the "artist" and "art criticism" and their impact on the field into the present. Visits to look at paintings at the University of Pennsylvania Museum, PMA and/or local collections.

618. (ARTH218) Egyptian Art. (M) Staff.

The class is an introductory course to the art of Ancient Egypt from the Pre-Dynastic Period through to the end of the New Kingdom. We will look at and discuss architecture, sculpture, and painting. Egypt also had a strong tradition in the minor arts (such as jewelry making, stone vessels, amulets, etc), which is often neglected. As art and religion were intertwined in Egypt, the culture and religion will be discussed in relation to the art and architecture. The class will explore questions in regards to stylistic and iconographic changes through the millennia, and will set the monuments and objects within their proper historical context. The class will visit the Egyptian Collection at the University of Pennsylvania Museum.

620. (AAMW620, ARTH220) Minoan, Cycladic and Mycenaean Art. (M) Shank.

This course is designed to give the an overview of the cultures of the Aegean Bronze Age. The art and architecture of

Crete, the Cyclades and the Mainland of Greece are examined in chronological order, with an emphasis on materials and techniques. In addition, larger issues such as the development of social complexity and stratification, and the changing balance of power during the Aegean Bronze Age are examined.

621. (AAMW621, ARTH221) Greek Vase Painting. (M) Brownlee, A.

Spring 2015: Painted vases constitute the most important and comprehensive collection of visual evidence that survives from ancient Greece. In this course, we will examine the development of Greek vase-painting from the 10th to the 5th century BC, with particular emphasis on the pottery of the Archaic and Classical periods that was produced in the cities of Athens and Corinth. An object-based learning course, this class will focus on the close study of Greek vases in the collection of the University of Pennsylvania Museum, and a number of class sessions will meet in the Museum. Several guest lecturers will discuss the conservation and ancient repair of Greek vases and the ceramic analysis of Greek pottery. We will also learn about the making of ceramics in a session in the Addams Hall pottery studio. Some background in art history or classical studies is helpful but not required.

622. (AAMW622, ARTH222) Art of Ancient Iran. (M) Pittman.

This course offers a survey of ancient Iranian art and culture from the painted pottery cultures of the Neolithic era to the monuments of the Persian Empire. Particular emphasis is placed on the Early Bronze Age.

L/R 624. (AAMW424, ARTH224) Art of Mesopotamia. (M) Pittman.

A survey of the art of Mesopotamia from 4000 B.C. through the conquest of Alexander the Great.

625. (AAMW625, ARTH225, CLST220) Greek Art and Artifact. (M) Kuttner.

This course surveys Greek art and artifacts from Sicily to the Black Sea from the 10th century BCE to the 2nd century BCE, including the age of Alexander and the Hellenistic Kingdoms. Public sculpture and painting on and around grand buildings and gardens, domestic luxury arts of jewelry, cups and vases, mosaic floors, and cult artefacts are discussed. Also considered are the ways in which heroic epic, religious and political themes are used to engaged viewer's emotions and served both domestic and the public aims. We discuss how art and space was considered,

along with ideas of invention and progress, the role of monuments, makers and patrons in Greek society.

L/R 626. (AAMW626, ARTH226, CLST221, CLST621) Hellenistic and Roman Art and Artifacts. (M) Kuttner.

This course surveys the political, religious and domestic arts, patronage and display in Rome's Mediterranean, from the 2nd c. BCE to Constantine's 4th-c. Christianized empire. Our subjects are images and decorated objects in their cultural, political and socio-economic contexts (painting, mosaic, sculpture, luxury and mass-produced arts in many media). We start with the Hellenistic cosmopolitan culture of the Greek kingdoms and their neighbors, and late Etruscan and Republican Italy; next we map Imperial Roman art as developed around the capital city Rome, as well as in the provinces of the vast empire.

SM 627. (AAMW627, ARTH227) Introduction to Mediterranean Archeology. (M)

Many of the world's great ancient civilizations flourished on the shores of the Mediterranean Sea: the Egyptians, the Minoans and Mycenaeans, the Greeks and Romans, just to name a few. In this course, we focus on the ways that archaeologists recover and interpret the material traces of the past, working alongside natural scientists, historians and art historians, epigraphers and philologists, and many others.

628. (AAMW628, ARTH228) Greek Architecture and Urbanism. (M) Haselberger.

Introduction to the art of building and city planning in the ancient Greek world, 7th-1st c. BC. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Mycenaean and eastern heritage as well as on theory and practice of urbanism as reflected in ancient cities (Athens, Pergamon, Alexandria) and writings (Plato, Aristotle, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.

629. (AAMW629, ARTH229) Roman Architecture and Urbanism. (M) Haselberger.

Introduction to the art of building and city planning in the Roman world, 6th c. BC - 2nd c. AD. Emphasis on concepts of organizing space, on issues of structure, materials, decoration, proportion, and the Etruscan and Greek heritage as well as on theory and practice of urbanism as reflected in ancient cities (Rome, Ostia, Roman

Alexandria, Timgad) and writings (Vitruvius, and others). Excursions to the Penn Museum and Philadelphia. No prerequisites.

631. (AAMW631, ARTH231) Neoclassical Architecture. (M) Haselberger.

An intensive introduction to the architecture of the Neoclassical century (ca. 1750-1850), as it made its appearance all over Europe and parts of North America. Following an exploration of the roots and intellectual preconditions of this "true style," a selection of major monuments in France, Germany, Britain, and the USA will be analyzed as well as some forms of neoclassical revival in the early decades of the 20th century. Field trips to the Second Bank Building and the Art Museum in Philadelphia. No prerequisites.

632. (AAMW632, ARTH232) Byzantine Art and Architecture. (C) Ousterhout.

This course surveys the arts of Byzantium from the fall of Rome to the fall of Constantinople in 1453. Study of major monuments, including icons, mosaics, architecture, and ivories provide us with an overview of this rich artistic culture. We pay special attention to the role of the Orthodox Church and liturgy in the production and reception of art works. Weekly recitation sections focus on selected major issues, such as the relationship of art to the Holy, the uses and abuses of Iconoclasm, and imperial patronage. The course also grapples with the Empire's relationship to other cultures by looking at the impact of the Christian Crusades and Moslem invasions - as well as Byzantium's crucial impact on European art (e.g., in Sicily, Spain).

633. (AAMW633, ARTH233) Eastern Medieval Architecture. (M) Ousterhout.

This lecture course examines major architectural developments in the eastern Mediterranean between the 4th and 14th centuries CE. The focus is on the Byzantine Empire, with its capital at Constantinople. Lectures also devoted to related developments in the Caucasus (Armenia and Georgia), early Russia, the Balkans (Bulgaria and Serbia), Sicily and under the Normans, the Crusader states. Parallel developments in early Islamic architecture are used for comparative purposes. The course examines evidence for religious and secular buildings, as well as urbanism and settlement patterns.

635. (AAMW635, ARTH235, NELC285, NELC685, VLST235) Introduction to Visual Culture of the Islamic World. (C) Holod.

A one-semester survey of Islamic art and architecture which examines visual culture as it functions within the larger sphere of Islamic culture in general. Particular attention will be given to relationships between visual culture and literature, using specific case studies, sites or objects which may be related to various branches of Islamic literature, including historical, didactic, philosophical writings, poetry and religious texts. All primary sources are available in English translation.

640. (AAMW640, ARTH240) Medieval Art. (A) Staff.

An introductory survey, this course investigates painting, sculpture, and the "minor arts" of the Middle Ages. Students become familiar with selected major monuments of the Late Antique, Byzantine, Carolingian, Romanesque, and Gothic periods, as well as primary textual sources. Analysis of works emphasizes the cultural context, the thematic content, and the function of objects. Discussions focus especially on several key themes: the aesthetic status of art and the theological role of images; the revival of classical models and visual modes; social rituals such as pilgrimage and crusading; the cult of the Virgin and the status of women in art; and, more generally, the ideology of visual culture across the political and urban landscapes.

641. (AAMW641, ARTH241) Introduction to Medieval Architecture. (M) Staff.

This course provides an introduction to the built environment of the Middle Ages. From the fall of Rome to the dawn of the Renaissance, a range of architectural styles shaped medieval daily life, religious experience and civic spectacle. We examine the architectural traditions of the great cathedrals, revered pilgrimage churches, and reclusive monasteries of western Europe, as well as castles, houses, and other civic structures. We integrate the study of the architecture with the study of medieval culture, exploring the role of pilgrimage, courts and civil authority, religious reform and radicalism, crusading and social violence, and rising urbanism. In this way, we explore the ways in which the built environment profoundly affected contemporary audiences and shaped medieval life.

650. (ARTH250) Visual Arts of the Italian Renaissance. (A) Kim.

This course explores the painting, sculpture, architecture, and other media (textiles, prints, and even armor) from the historical eras conventionally known as the Early and High Renaissance, Mannerism, and Counter Reformation. We consider the work of such artists as Cimabue, Duccio, Giotto, and Mantegna as well as the careers, personalities and reception of Leonardo, Raphael, Michelangelo, and Titian. With emphasis placed upon artists cultivation of particular styles, we look closely at works originating from various contexts: political (city-states, princely courts, and the Papal States); spatial / topographic (inner chambers of private palaces, family chapels, church facades, and public squares); and geographic (Florence, Siena, Rome, Naples, Venice, and Milan). Topics include artistic creativity and license, religious devotion, the revival of antiquity, observation of nature, art as problem-solving, the public reception and function of artworks, debates about style, artistic rivalry, and traveling artists. Rather than taking the form of a survey, this course selects works as paradigmatic case studies, and analyze contemporary attitudes toward art of this period through study of primary sources.

652. (ARTH252) Venice and the Mediterranean. (C) Kim.

This course explores the art and architecture of Venice and her mainland and overseas colonies, with emphasis upon the Dalmatian coast and Aegean islands. Topics include cartography and empire, diffusion of Byzantine icons, and the ship as a mediator of cultural exchange.

654. (ARTH254) Global Renaissance and Baroque. (C) Kim.

An introduction to transcultural encounters within and beyond early modern Europe, 1450-1600. Topics include: the theory and historiography of global art; artistic relations between Venice, the Byzantine and Ottoman Empires, and islands in the Eastern Mediterranean; Portugal's overseas mercantile network in Africa and Asia; and the Baroque in Latin America, with emphasis upon Brazil. Our discussions focus on these paradigmatic case studies so as to question the language and terms we use to characterize confrontations between native and foreign, the self and the other.

658. (ARTH258) Early Modern Japanese Art and the City of Edo. (M) Davis.

Study of the major art forms and architecture of Tokugawa (or Edo) period

(1603-1868). In this course, we will consider how the arts of this era occur within an increasingly urban and modern culture, particularly with regard to the city of Edo. Issues of the articulation of authority in the built environment, the reinvention of classical styles, and patronage will be raised. May include some visits to PMA, Penn Museum, or other local collections.

SM 659. (ARTH259) Early Prints. (M) Silver.

History of prints in the period from about 1400 to Albrecht Durer (d 1528). Relation of early Northern and Italian woodcuts, engravings, and etchings to contemporary art forms - sculpture, painting.

660. (ARTH260) Jewish Art. (M) Silver.

Jewish Art provides a survey of art made by and for Jews from antiquity to the present. It will begin with ancient synagogues and their decoration, followed by medieval manuscripts. After a discussion of early modern representation of Jews in Germany and Holland (esp. Rembrandt), it focuses most intently on the past two centuries in Europe, American, and finally Israel and on painting and sculpture as Jewish artists began to pursue artistic careers in the wider culture. No prerequisites or Jewish background assumed.

661. (ARTH261) Northern Renaissance Art. (M) Silver.

Survey of the principal developments in Northern Europe during the "early modern" period, i.e. the transition from medieval to modern art-making during the fifteenth and sixteenth centuries. Principal attention to painting and graphics with additional consideration of developments in sculpture, particularly in the regions of the Netherlands and German-speaking Europe. Attention focused on the works of the following artists: Van Eyck, Bosch, Durer, Holbein, Bruegel, and on topics such as the rise of pictorial genres, urban art markets, Reformation art and art for the dynastic courts of emerging nation-states.

662. (ARTH262, DTCH261) Netherlandish Art. (M) Silver.

Dutch and Flemish painting in the 15th and 16th centuries with special emphasis on the contributions of Robert Campin, Jan van Eyck and Roger van der Weyden, Bosch, and Bruegel.

663. (ARTH263) German Art. (M) Silver.

This course focuses on paintings, prints, and sculptures produced in Germany

around 1600. Principal attention will focus on the changing role of visual cult and altar pieces which evolve into an era of "art," and collecting of pictures. German politics and religion will be examined in relation to the images. Cultural exchange with neighboring regions of Italy and the low countries is considered.

664. (ARTH264) Bruegel to Vermeer. (M) Silver.

Historical overview of the principal developments in Dutch painting and visual culture across the period of the Dutch Revolt (1568-1648) and beyond. Principal pictorial types, including landscape, portraits and group portraits, genre painting, still-life. Principal artists, including: Bruegel, Goltzius, Hals, Rembrandt, and Vermeer, as well as leading practitioners of each pictorial category. Consideration of cultural values inherent in such imagery, particularly against the background of Dutch society and religious diversity, along with the court culture and Catholic religiosity rejected by the national independence movement.

665. (ARTH265) Northern Baroque Art. (M) Silver.

Northern Baroque art comprises seventeenth-century paintings and prints from Flanders and Holland. Featured artists include: Pieter Bruegel, Hendrick Goltzius, Peter Paul Rubens, Anthony van Dyck, Frans Hals, Rembrandt, and Vermeer. Topics considered include innovations of various kinds--starting with portraits and society, landscapes, still-life, and scenes of daily life (genre pictures).

667. (PHIL223, VLST223) Philosophy and Visual Perception. Hatfield.

The course starts with a discussion of theories of visual perception and their relation to philosophy. We survey the history of visual theories from Euclid to Marr and Rick, with stops to include Ibn al-Haytham, Descartes, Berkeley, Helmholtz, and Gibson. We then consider selected philosophical topics, such as the nature of object perception, or the representational relation between images and things imaged (eg., between pictures and what they represent).

L/R 670. (ARTH270) The Modern City. (C) Brownlee, D.

A study of the European and American city in the eighteenth, nineteenth, and twentieth centuries. Emphasis is placed on the history of architecture and urban design; political, sociological, and economic factors also receive attention. The class considers the development of London, St.

Petersburg, Washington, Boston, Paris, Vienna and Philadelphia.

L/R 671. (ARTH271) Modern Architecture, 1700-1900. (C) Brownlee.

The history of western architecture, ca. 1700-1900, when architecture was transformed to serve a world that had been reshaped by political and industrial revolutions. Topics to be considered include the Rococo, the English Garden, Palladianism, Romanticism, neo-classicism, the picturesque, the Greek and Gothic Revivals, and the search for a new style.

673. (ARTH273) History of Photography. (M) Staff.

A history of world photography from 1839 to the present and its relation to cultural contexts as well as to various theories of the functions of images. Topics discussed in considering the nineteenth century will be the relationship between photography and painting, the effect of photography on portraiture, photography in the service of exploration, and photography as practiced by anthropologists; and in considering the twentieth century, photography and abstraction, photography as "fine art", photography and the critique of art history, and photography and censorship.

674. (AFRC294, ARTH274, ASAM294, CIMS293, LALS294) Facing America. (M) Shaw.

This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We also investigate the ways that these creations have subsequently helped to launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.

675. (ARTH275) Revolution to Realism: European Art, 1770-1870. (C) Dombrowski.

This course surveys the major trends in European art of the tumultuous decades stretching from French Revolution of 1789 to the rise of realism in the mid-nineteenth century. Starting with Jacques-Louis David's revolutionary history paintings, we study Napoleonic representations of empire, Goya's imagery of violence, romantic representations of madness and

desire, Friedrich's nationalist landscapes, as well as the politicized realism of Courbet. Some of the themes that are addressed include: the revolutionary hero, the birth of the public museum, the anxious masculinity of romanticism, the rise of industry and bourgeois culture, the beginnings of photography, the quest for national identity and, not least, the origins of the modernist painting. Throughout, we recover the original radicalism of art's formal and conceptual innovations at times of political and social crisis. We focus on the history of French painting, but include sculpture, photography, visual culture and the development of the modern city, in England, Germany and Spain.

L/R 676. (ARTH276) Impressionism. (C) Dombrowski.

Impressionism opened the pictorial field to light, perception, science, modernity, bourgeoisie leisure and famously the material qualities of paint itself. This course will survey the movement's major contexts and proponents--Manet, Monet, Morisot, Cezanne, Gauguin, Van Gogh, Rodin--from its origins in the 1860's to its demise in the 1890's, as well as its subsequent adaptations throughout the world until World War I. Particular attention is paid to the artists' critical reception and the historical conditions which allowed one nation, France, to claim the emergence of early Modernism so firmly for itself. The course also analyzes the effects of the rapidly changing social and cultural fabric of Paris, and its affects on artistic developments. We also look outside of France's borders to Germany and Britain.

L/R 677. (ARTH277) The Rise of Modernity: Arts of the 19th Century. (M) Brownlee, Dombrowski.

The nineteenth century is often considered as fast-paced, politically volatile and new-media obsessed as our own age. This course explores the nineteenth century's claim to have produced the first truly modern culture, focusing on the visual arts and metropolitan spaces of Europe and North America in their intellectual and social contexts. Stretching from the American and French Revolutions to the eve of World War I, topics to be covered include: the rise of capitalist and industrialist culture, art and revolutionary upheaval, global travel and empire, the origins of modernist art and architecture, and new media such as stereoscopes, iron and glass construction, and photography. Major artistic personalities of the age, from Jacques-Louis David and Gustave Courbet to Claude Monet and Vincent Van Gogh, and from Friedrich Schinkel and, Baron

Hausmann to Frank Furness and Frank Lloyd Wright, are discussed. Each lecture will be followed by a brief period of discussion, and regular field trips take students to examine art and architecture first hand, in the museums and on the streets of Philadelphia.

678. (ARTH278) American Art. Leja, Shaw.

This course surveys the most important and interesting art produced in the United States (or by American artists living abroad) up through the 1950s. This period encompasses the history of both early and modern art in the U.S., from its first appearances to its rise to prominence and institutionalization. While tracking this history, the course examines art's relation to historical processes of modernization (industrialization, the development of transportation and communications, the spread of corporate organization in business, urbanization, technological development, the rise of mass media and mass markets, etc.) and to the economic polarization, social fragmentation, political conflict, and the cultural changes these developments entailed. In these circumstances, art is drawn simultaneously toward truth and fraud, realism and artifice, science and spirituality, commodification and ephemerality, nationalism and cosmopolitanism, individualism and collectivity, the past and the future, professionalization and popularity, celebrating modern life and criticizing it.

SM 680. (ARTH280) 20th Century East Asian Art. (M) Davis.

This course reconsiders modern and contemporary art in China, Japan and Korea over the course of the twentieth century. The confrontations between modernity and tradition, state and self, the colonizer and the colonized, and collecting and the market are among its themes. The course begins with a study of the way modern art was defined at the turn of the 20th century, the promotion of oil painting and the call to preserve national styles, and the use of art at world's fairs. The avant-garde pursuit of individuality, state-sponsored modernism, the use of art as propaganda in WWII and Communist Revolution, and the place of Chinese, Korean and Japanese art in the contemporary market are also topics covered in this course.

L/R 681. (ARTH281) Modern Architecture, 1900-Present. (C) Brownlee.

The architecture of Europe and America from the late nineteenth century until the

present is the central subject of this course, but some time is also devoted to Latin American and Asian architecture and to the important issues of modern city planning. Topics discussed include the Arts and Crafts movement, Art Nouveau, Expressionism, Art Deco, the International Style, and Post-modernism. The debate over the role of technology in modern life and art, the search for a universal language of architectural communication, and the insistent demand that architecture serve human society are themes that are traced throughout the course. Among the important figures to be considered are Frank Lloyd Wright, Walter Gropius, Le Corbusier, Louis Kahn, Robert Venturi, and Denise Scott Brown. The course includes weekly discussion sessions and several excursions to view architecture in Philadelphia.

L/R 682. (ARTH282) Modern Architecture, 1900-Present. (C) Brownlee.

The architecture of Europe and America from the late nineteenth century until the present is the central subject of this course, but some time will also be devoted to Latin American and Asian architecture and to the important issues of modern city planning. Topics to be discussed include the Arts and Crafts movement, Art Nouveau, Expressionism, Art Deco, the International Style, and Post-modernism. The debate over the role of technology in modern life and art, the search for a universal language of architectural communication, and the insistent demand that architecture serve human society are themes that will be traced throughout the course. Among the important figures to be considered are Frank Lloyd Wright, Walter Gropius, Le Corbusier, Louis Kahn, Robert Venturi, and Denise Scott Brown. The course includes weekly discussion sessions and several excursions to view architecture in Philadelphia.

L/R 686. (ARTH286) Modern Art: Picasso to Pollock. (C) Poggi.

Early twentieth-century art in Europe is marked by a number of exciting transformations. This period witnessed the rise of abstraction in painting and sculpture, as well as the inventions of collage, photomontage, constructed sculpture, the ready made and found object, and performance art. Encounters with the arts of Africa, Oceania and other traditions unfamiliar in the West spurred innovations in media, technique, and subject matter. Artists began to respond to the challenge of photography, to organize themselves into movements, and in some cases, to

challenge the norms of art through "anti-art." A new gallery system replaced traditional forms of exhibiting and selling art, and artists took on new roles as publicists, manifesto writers, and exhibition organizers. This course examines these developments, with attention to formal innovations as well as cultural and political contexts. This course requires permission from the instructor.

688. (ARTH288) Modern Design. (M) Marcus.

This survey of modern utilitarian and decorative objects spans the century, from the Arts and Crafts Movement to the present, from the rise of Modernism to its rejection in Post-Modernism, from Tiffany glass and tubular-metal furniture to the Sony Walkman. Its overall approach focuses on the aesthetics of designed objects and on the designers who created them, but the course also investigates such related topics as industrialization, technology, ergonomics, and environmental, postindustrial, and universal design. Among the major international figures whose graphics, textiles, furniture, and other products will be studied are William Morris, Frank Lloyd Wright, Josef Hoffmann, Le Corbusier and Charlotte Perriand, Mies van der Rohe, Alvar Aalto, Raymond Loewy, Charles and Ray Eames, Isamu Noguchi, Eero Saarinen, Paul Rand, Jack Lenor Larsen, Ettore Sottsass, Jr., Robert Venturi, Frank Gehry, and Philippe

L/R 690. (ARTH290) Post War Japanese Cinema. (M) Davis.

Mizoguchi Kenji, Ozu Yasujiro, and Kurosawa Akira are recognized today as three of the most important and influential directors in Japanese cinema. In their films of the late 1940s and 1950s, these directors focused upon issues surrounding the human condition and the perception of truth, history, beauty, death, and other issues of the postwar period. This course places their films in period context, and pays particular attention to the connections to other visual media, and to how "art" and "history" are being defined in the cinematic context. How other directors also took up these issues, and referred to the "big three" is also being discussed.

L/R 694. (ARTH294, ENGL059, GWS294, VLST236) Art Now. (B) Silverman.

One of the most striking features of today's art world is the conspicuous place occupied in it by the photographic image. Large-scale color photographs and time-based installations in projections are everywhere. Looking back, we can see that much of the

art making of the past 60 years has also been defined by this medium, regardless of the form it takes. Photographic images have inspired countless paintings, appeared in combines and installations, morphed into sculptures, drawings and performances, and served both as the object and the vehicle of institutional critique. They are also an increasingly important exhibition site: where most of us go to see earthworks, happenings and body-art. This course is a three-part exploration of our photographic present.

L/R 696. (ARTH296) Contemporary Art. (B) Poggi.

Many people experience the art of our time as bewildering, shocking, too ordinary (my kid could do that), too intellectual (elitist), or simply not as art. Yet what makes this art engaging is that it raises the question of what art is or can be, employs a range of new materials and technologies, and addresses previously excluded audiences. It invades non-art spaces, blurs the boundaries between text and image, document and performance, asks questions about institutional frames (the museum, gallery, and art journal), and generates new forms of criticism. Much of the "canon" of what counts as important is still in flux, especially for the last twenty years. And the stage is no longer centered only on the United States and Europe, but is becoming increasingly global. The course will introduce students to the major movements and artists of the post-war period, with emphasis on social and historical context, critical debates, new media, and the changing role of the spectator/participant.

697. (ARTH297) Art / Contemporary Society. Staff.

How do you perform freedom? Is it something you have, or is it something you aspire towards and struggle to achieve? What role does art play in this process? This course will explore how artists in the 21st century have constructed newly creative and critical spaces of freedom through art, and how art functions as a mechanism for reflecting on contemporary identity and society. We will be attentive to how our understanding of freedom can change over time, and what happens when our personal and collective definitions come into conflict with others.

Emphasis will be given in the syllabus to visual and performance art from the 1960s era to the present. Each week we will engage artists that explore the possibility of freedom in different ways, including William Pope.L, Kara Walker, Glenn Ligon, Ai Weiwei, Krzysztof Wodiczko, Allan Sekula, Laura Poitras,

Laura Kurgan, and Fazal Sheikh. In learning about these artists, we will also engage the extensive digital archives of Slought (slought.org), a cultural organization located on campus. Finally, in conjunction with a Spring 2016 exhibition at Slought of the work of photographer Fazal Sheikh, we will engage the artist in conversation about the themes explored in the course. Course requirements also include weekly participation in a discussion forum, two papers, and occasional attendance at cultural events on campus.

700-Level Courses

SM 701. (AAMW701, GRMN578) Proseminar in Methods in the History of Art. (M) Staff.

The meanings we ascribe to art works of any culture or time period are a direct result of our own preoccupations and methods. This colloquium will give both a broad overview of contemporary debates in the history of art-including such issues as technologies of vision, feminism, gender and sexuality studies, globalism, the pictorial turn or material/vision culture-and locate these methods within art history's own intellectual history, as well as the history of aesthetics. The course will consist of wide-ranging weekly readings and discussion, and also clarify such key terms as iconography, formalism, connoisseurship, and the Frankfurt and Vienna Schools.

SM 710. Topics in Indian Architecture. (M) Meister.

Topic varies.

SM 711. (SAST711) Topics in Indian Art. (M) Meister.

Topic varies.

Spring 2016: We will examine the practice and symbolism of South Asian Architecture with case studies of how to build and how to make buildings meaningful.

SM 714. Topics in East Asian Art. (M) Davis.

Curatorial Seminar

Spring 2015: This course will be offered in association with the exhibition, *Representing Place: Landscape and Imagination in Modern Japanese Prints*, to be held at the Arthur Ross Gallery in spring 2015. The seminar proposes to expand our discussion of landscape as a larger theme in the visual arts, with examples drawn from Europe, America, East Asia, and other locations. We will further consider how some sites became known as famous places, and how that act is tied up to issues

of local, regional and national identity and often implicated in the promotion of specific places. This course will feature the opportunity to study works in the PMA collection, travel to "famous sites" around Philadelphia, and participate in the final preparations and installation of the exhibition.

SM 715. Topics in Japanese Art. (M) Davis.

Topic Varies.

SM 720. (AAMW720, CLST614) Topics in Aegean Art. (M) Shank.

Topic varies.

SM 721. (AAMW721) Topics in Archaeological Science. (M) Staff.

Topic varies.

SM 722. Topics in the Art of Ancient Iran. (M) Pittman.

Topic varies.

SM 723. (AAMW723, ANTH723, NELC740) Topics in the Art of the Ancient Near East. (M) Pittman.

Topic varies.

Spring 2015: This team taught class will extend from the lead up to the Neo Sumerian Empire through the Empire and its collapse and reorganization of the political landscape of greater Mesopotamia. It will consider the imperial period internally and from the perspective of the northern and eastern neighbors. This class is an upper level graduate research seminar that will include art historical, anthropological and historical approaches. Class participation and a major research paper are required.

SM 725. (AAMW725) Topics in Greek and Roman Art. (M) Kuttner.

Topic varies.

SM 728. Topics in Greek Architecture. (M) Haselberger.

Topic varies.

SM 729. (AAMW729, CLST728) Topics in Roman Architecture and Topography. (M) Haselberger, Ousterhout.

Topic varies.

Fall 2015: This seminar will investigate two ancient architectural masterpieces, the 2nd c. AD Pantheon in Rome and the 6th c. AD Hagia Sophia in Istanbul. The two monuments stand at the forefront of the architectural trends under Hadrian and Justinian respectively, and are best known for their unique designs and

domes of unprecedented scale. The seminar will analyze issues of design, structure, aesthetics, and symbolism. No prerequisites; skills in digital visualization are welcome.

SM 730. Vitruvian Studies. (M) Haselberger.

Research on Vitruvius' ten books on architecture, art, and construction. We explore structure, sources, and intended readers of this treatise; formation of art theory and its relation to practice; statics and esthetics; Greek model vs. Italic tradition; discrepancy with the ideals of the "Augustan Revolution"; role and reception during the Renaissance and late Classical revivals (using Penn's rich collection of 16th to 20th c. Vitruvius editions); latest wave of Vitruvian scholarship. - Working knowledge of Latin, French, German helpful, but not necessary.

SM 732. (AAMW732) Topics in Byzantine Art and Architecture. (M) Ousterhout.

Topic varies.

Spring 2016: The graduate seminar will investigate the dynamics of artistic exchange between Constantinople and its Byzantine provinces, as well as areas under its cultural influence. Both architecture and monumental art will be considered, focusing on the period of 6th-12th centuries. Students will produce two research papers: one addressing a Constantinopolitan monument; the second assessing artistic production in a region outside the Byzantine capital.

SM 733. Topics in Early Christian and Byzantine Architecture. (M) Ousterhout.

Topic varies.

SM 735. Topics in Islamic Art. (M) Holod.

Topic varies.

SM 736. Topics in the Islamic City. (M) Holod.

Topic varies.

SM 737. Topics in Islamic Architecture. (M) Holod.

Topic varies.

SM 738. (AAMW738, NELC731) Topics in Islamic Archaeology. (M) Holod.

Topic varies.

Spring 2017: This seminar will trace the development of the field from one that was centered largely on the recovery of

major monuments to one in which issues of daily life, demography, chronology and the study of settlement patterns have come to play a major role. The seminar will review work in the major zones of the Islamic world: Central Asia, Iran, Iraq, Anatolia, Syria, Palestine, Egypt, North Africa I (Libya-Tunisia), North Africa II (Algeria-Morocco), Spain. Of special interest this semester will be the study of landscape archaeology and settlement patterns. The seminar will discuss changes in patterns of settlement, trade and material culture 650 - 1300 CE in different areas of the Islamic world, concentrating on sites in Iran, Syria and North Africa.

SM 740. (RELS702, SPAN630) Topics in Medieval Art. (M) Guerin.

Topic varies.

Spring 2017: For the Christians of medieval Europe, pilgrimages were one of the key embodied experiences of faith. Reliquaries, churches with their welcoming portals, manuscripts and music: all were crafted to augment the corporeal experience of the divine. This seminar will take the material culture surrounding the relic and its veneration as a lens for exploring the Middle Ages, from the Early Christian to the High Gothic. Cross-disciplinary methodologies and cross-cultural examples will be considered to advance our understanding of these phenomena. While proceeding chronologically, each week will focus on a distinct strategy for shaping the interaction between faith and matter.

SM 741. Topics in Medieval Architecture. (M) Staff.

Topic varies.

SM 750. Topics in Southern Renaissance Art. (M) Kim.

Topic varies.

Fall 2015: One of the most compelling developments in the field of art history has been the turn towards materiality. Drawing upon such diverse fields as material culture, anthropology, and the history of science and technology, materiality as an approach questions how certain substances--be they wood, metal, or glass--constitute the physical makeup of art works. Pushing beyond the distinction between mind and matter (which often manifests itself as mind over matter), materiality interrogates how the process, appearance and metaphorical associations of physical substances bear upon artistic selfhood, the constitution of viewership and the historically-contingent and ever-evolving meaning of art works. In short, materiality calls attention to the semantic potential conveyed by the stuff of art works, privileging it as much as those

artists celebrated as geniuses who transcend the lowly sphere of the physical world.

This course explores the use and representation of materials as well as the theories of those materials in the art and art theory of the early modern period. Issues to be discussed include the disavowal of material, material and the role of the senses, and material's capacity to evoke location, either proximate or distant.

SM 751. Topics in Early Modern Art Theory. (M) Kim.

Topic varies.

SM 753. Topics in Southern Baroque Art. (M) Kim.

Topic varies.

SM 754. Topics in Global Art. (M) Kim, Silver.

Topic varies.

SM 761. (DTCH601, DTCH661, GRMN679) Topics in Northern Renaissance Art. (M) Silver.

Topic varies.

Spring 2016: Curatorial emphasis for graduate students about the rich collections of the Johnson Collection in the Philadelphia Museum of Art. Students will work together with the Johnson Collection curator, Christopher Atkins, researching all aspects of selected works: painting history, condition, bibliography, theme, and significance for sample catalogue entries. Some of these works will eventually go on display a year later in a Johnson Collection Centennial exhibition at the PMA, so the possibility of a publication may accrue to invaluable "insider" museum experience.

SM 762. Topics in Baroque Art. (M) Silver.

Topic varies.

SM 765. (DTCH665) Topics in Northern Baroque Art. (M) Silver.

Topic varies.

This seminar will consider major themes in Northern art of the 16th and 17th centuries, essentially from Bruegel to Vermeer. The premise is that the Reformation altered certainties in knowledge and even in perception, especially in the wake of wars, newly discovered lands, changing science and collecting of Wonders. Among new imagery topics would include: melancholy, vanitas, witchcraft, travel images, and the status of the emblem as well as allegory. Students will select a topic for semester-long investigation and co-present a class with the instructor. No prerequisites; graduate students only.

SM 771. Topics in 19th Century Architecture. (M) Brownlee.

Topic varies.

SM 772. Topics in Visual Culture. (M) Leja.

Topic varies.

SM 775. Topics in 19th Century European Art. (M) Dombrowski.

Topic varies.

Spring 2015: Despite the fact that one exhibition on Impressionism chases the next these days, the academic study of this crucial early modernist movement has slowed since the 1970s and 1980s, when new art historical paradigms (like feminism and the social history of art) were tested on Manet, Monet and their followers. This seminar seeks to understand this development but also countermand it by establishing an account of Impressionism that fits our current global, multimedia and multidisciplinary forms of humanistic thought. To this end, we will read those recent scholars who place Impressionism within new contexts that include the history of science and technology (visual perception, psychology, evolution, chemistry), political history and theory (republicanism, revolution, empire, nationalism), and consumer culture (fashion, capitalism). We will also go back to the movement's early critics (like Laforgue and Geffroy), in order to appreciate their strange metaphoric languages (which saw in Impressionism, for instance, the seeds of social upheaval or the most advanced eye in human evolution) and make them newly useful for a 21st-century interpretation of Impressionism's true intellectual heft and radical aesthetics.

SM 778. Topics in 19th Century American Art. (M) Leja, Shaw.

Topic varies.

SM 781. (COML603) Topics in 20th Century Architecture. (M) Brownlee.

Topic varies.

SM 783. (COML683, ENGL573, SLAV683) Topics in Comparative Art History. (M)

Topic Varies.

Spring 2015: A recent turn toward global and transnational paradigms is one of the few traits shared by modernist studies across multiple disciplines. Modernism Across Borders will take advantage of this commonality among diverse sites of inquiry, treating modernism as a transborder phenomenon while also probing the limitations and still-latent

potential of such an approach. This experimental, interdisciplinary seminar will devote the first two hours of each three-hour class to discussion of readings in the study of modernism. The third hour will be devoted to a presentation and discussion of a work in progress a project either of a member of the course, or of a guest. Seminar discussions will be led by a number of Penn faculty. Conveners of the overall course are Christine Poggi and Kevin M. F. Platt. Students are encouraged to bring work in progress, either on the basis of past seminars or independent projects, to form the basis for their projects in this seminar.

SM 786. (COML786, ITAL685) Topics in 20th Century Art. (M) Poggi.

Topic varies.

SM 788. Topics in 20th Century American Art. (M) Leja, Shaw.

Topic varies.

SM 793. (CIMS793, ENGL797, GSWS793) Topics in Cinema and Media. (M) Beckman.

Topic varies.

SM 794. (COML787, ENGL778) Topics in Contemporary Art. (M) Silverman.

Topic varies.

Fall 2016: By 1842--three years after the official invention of photography--photographers had already begun hand-coloring their daguerreotypes, and a century and a half later Richter started smearing and spattering paint onto small photographs, and exhibiting them along with his abstract and figurative paintings. By the mid-1850's, many artists were also painting from photographs, sometimes by projecting them onto their canvases, and treating these projections as preparatory drawings. They called the resulting images "photo paintings." And although it became increasingly "disreputable" to work in this way as the century progressed, Eugene Delacroix, Gustave Courbet, Edouard Manet, Henri Fantin-Latour, Edgar Degas and Edouard Vuillard all made paintings that are in one way or another "photographic." Some of them also saw photography as the gateway to a new kind of figurative painting.

Abstraction hardened the distinction between art and photography, and brought these medium-crossings to an end. However, photo painting resurfaced in the 1950s and 1960s, and although it initially seemed ironic, it has outlived the movements that made this reading possible. As we can now see, photo-painting is a far more complex and multi-faceted way of

generating images than those generally associated with Pop, Institutional Critique and Appropriation.

We will begin this seminar with the two most important practitioners of nineteenth century photo painting, Edouard Manet and Edgar Degas. We will then direct our attention to a group of twentieth and twenty-first century photo-painters: Richard Artschwager, Marlene Dumas, Richard Hamilton, Gerhard Richter, Wilhelm Sasnal, and Luc Tuymans.

SM 796. (CIMS796, COML787, ENGL778) Topics in Contemporary Art. (M) Poggi.

Topic varies.

Fall 2015: The language of gestures. How do gestures mean? Ways in which gestural meanings differ from verbal meanings. Gestures as vehicles of lines of force. Distinction between the human subject as a personality and as an emitter of lines of force. Personality and lines of force as different registers of being.

Ontological pathology of incomplete lines of force. Significance of this for psychoanalytic therapy and the representation of the human in literary fiction and in the visual arts. Among works studied: Deleuze, G.H. Mead, Bergson; Caravaggio, Robert Gober; Lawrence, "Women in Love", James, "The Awkward Age"; Kimberly Peirce, "Boys Don't Cry", Lars von Trier, "Melancholia", Bruno Dumont, "Humanity"; Freud, Lacan film clip, C. Bolla.

ASIAN AMERICAN STUDIES (AS) {ASAM}

L/R 001. (SOC1103) Asian Americans in Contemporary Society. (C) Society Sector. All classes. Kao.

This class will introduce you to sociological research of Asian Americans and engage in the "model minority" stereotype. We begin by a brief introduction to U.S. immigration history and sociological theories about assimilation and racial stratification. The class will also cover research on racial and ethnic identity, educational stratification, mass media images, interracial marriage, multiracials, transracial adoption, and the viability of an Asian American panethnic identity. We will also examine the similarities and differences of Asian Americans relative to other minority groups.

002. (ENGL072) Asian American Literature. (C) Arts & Letters Sector. All Classes. Staff.

An overview of Asian American literature from its beginnings at the turn of the twentieth century to the present. This course covers a wide range of Asian American novels, plays, and poems, situating them in the contexts of Asian American history and minority communities and considering the variety of formal strategies these different texts take.

003. (HIST155) Introduction to Asian American History. (C) History & Tradition Sector. All classes. Azuma.

This course provides an introduction to the history of Asian/Pacific Americans, focusing on the wide diversity of migrant experiences, as well as the continuing legacies of Orientalism on American-born APA's. Issues of race, class, gender, and sexuality will also be examined.

L/R 006. (AFRC006, SOCI006, URBS214) Race and Ethnic Relations. (C) Staff.

This course is cross-listed with SOCI 006 when the subject matter is related to Asian Americans.

SM 013. (HIST104) Freshman Seminar: Asian American History. (C) Azuma.

This reading seminar will focus on how different groups of Asians interacted with each other in the context of early twentieth-century American society, especially in Hawaii and California. Such issues as ethnicity, complexity of race relations (as

opposed to conventional black-white binarism), and the intricate entanglements of class and race will also be examined. Topics can change each semester. Please see our website for more current information: asam.sas.upenn.edu

SM 110. Asian American Activism. (C) Staff.

Please see our website for more current information: asam.sas.upenn.edu

160. (SAST290) South Asians in the United States. (A) Khan.

This course investigates the everyday practices and customs of South Asians in America. Every immigrant group has its own history, customs, beliefs and values, making each unique while simultaneously a part of the "melting pot" or "salad bowl" of American society. Yet how do people define themselves and their ethnicities living in a diasporic context? By taking into account the burgeoning South Asian American population as our model, this course will explore the basic themes surrounding the lives that immigrants are living in America, and more specifically the identity which the second generation, born and/or raised in America, is developing. South Asians in the U.S. will be divided thematically covering the topics of ethnicity, marriage, gender, religion, and pop culture. Reading and assignments will discuss a variety of issues and viewpoints that are a part of the fabric of South Asia, but will focus on the interpretation of such expressive culture in the United States.

SM 170. (SAST170) Asian American Psychology. (B) Staff.

Using a cultural perspective, this course is intended to provide knowledge of Asian American personality, identity, and its relationship to mental well being; analyze psycho-social research pertinent to Asian Americans; and develop critical thinking skills on Asian American issues through experiential learning/discussions.

200. Multicultural Psychology. Staff.

Please see our website for more current information: asam.sas.upenn.edu

201. (COMM201, SOCI150, SOCI231, URBS215) Topics in Asian American Sociology. (C) Staff.

Topics vary. Please see our website for more current information: asam.sas.upenn.edu

SM 202. (CIMS272, ENGL272) Topics in Asian American Literature. (C) Staff.

Topics vary. Please see our website for more current information: asam.sas.upenn.edu

SM 203. (HIST223, HIST231) Topics in Asian American History. (C) Staff.

Topics vary. Please see our website for more current information: asam.sas.upenn.edu

SM 205. (URBS207) Asian American Communities. (C) Khan.

Who is Asian American and how and where do we recognize Asian America? This interdisciplinary course explores the multiple factors that define Asian American identity and community. In order to provide a sketch of the multifaceted experience of this growing minority group, we will discuss a wide variety of texts from scholarly, artistic, and popular (film, cinematic) sources that mark key moments in the cultural history of Asia America. The course will address major themes of community life including migration history, Asian American as model minority, race, class, and transnational scope of Asian America. In combination with the readings, this class will foster and promote independent research based on site visits to various Asian American communities in Philadelphia and will host community leaders as guest lecturers.

212. (SAST212) Topics in Asian American Film. (C) Staff.

Topics vary. Please see our website for more current information: asam.sas.upenn.edu

294. (AFRC294, ARTH274, ARTH674, CIMS293, LALS294) Facing America. Shaw.

This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We will also investigate the ways that these creations have subsequently helped to launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.

354. (HIST354) American Expansion in the Pacific. (C) Azuma.

This class will focus on America's expansion into the Pacific around the turn of the century with the acquisition of Hawaii and the Phillipines. It can deal with various issues, including the meaning of "frontier," colonialism, development of capitalist economies in the region,

diplomacy, racism, migration, an American brand of Orientalism in encountering the "natives" and "heathens," and histories of the West and the Pacific Islands in general.

SM 590. (SOCI596) Sociology of Education. (M) Kao.

This graduate seminar will introduce students to some of the key theoretical and

empirical work in the sociology of education. We will examine how schools work to maintain or alleviate inequality, and focus on differences in educational achievement and attainment by race, ethnicity, immigrant status, class, and gender. We will review work on the educational experiences of youth from early childhood to young adulthood.

**ASTRONOMY AND
ASTROPHYSICS
(AS) {ASTR}**

001. A Survey of the Universe. (S)

Physical World Sector. All classes. Only one ASTR course below ASTR 211 may be taken for credit. Engineering students receive no credit for this course.

A general survey, designed for the non-major, of the facts and theories of the astronomical universe, from solar system, to stars, to galaxies and cosmology. Topics include planets, satellites, small objects in the solar system, and extraterrestrial life; stars, their evolution, and their final state as white dwarfs, neutron stars, or black holes; galaxies, quasars, large structures, background radiation, and big bang cosmology. Elementary algebra and geometry will be used. This course is not recommended for physical-science majors or engineering students. Engineering students receive no credit for this course. Fulfills quantitative data analysis requirement.

006. The Solar System, Exoplanets, and Life. (C) Natural Science & Mathematics Sector. Class of 2010 and beyond. Also fulfills General Requirement in Physical World for Class of 2009 and prior. Only one ASTR course below ASTR 211 may be taken for credit. Fulfills quantitative data analysis requirement.

A survey course on planets and life covering our own Solar System and exoplanets orbiting other stars. Topics include the latest results and theories about: the origin and evolution of planetary systems around our Sun and other stars; the detection of exoplanets; the implications of planetary atmospheres for life; and the search for life on other planets in our Solar System. This course is designed for the non-major and elementary algebra and geometry will be used. Physical science majors and engineering students should prefer ASTR 211 to this course.

007. The Big Bang and Beyond. (C)

Natural Science & Mathematics Sector. Class of 2010 and beyond. Also fulfills General Requirement in Physical World for Class of 2009 and prior. Only one ASTR course below ASTR 211 may be taken for credit.

An introductory course for students who do not intend to major in a physical science or engineering, covering theories of the Universe ranging from the ancient perspective to the contemporary hot big bang model, including some notions of Einstein's special and general theories of relativity. Topics will include the solar system, stars, black holes, galaxies, and the structure, origin and future of the Universe itself. Elementary algebra is used. Fulfills quantitative data analysis requirement.

211. Introduction to Astrophysics I. (A)

Physical World Sector. All classes. Prerequisite(s): MATH 104, PHYS 150, or concurrently.

This is a basic course for majors in astronomy, in other physical sciences, and in engineering covering fundamental knowledge of the solar system, its formation, properties of light and matter as they affect understanding astrophysical objects, and stellar structure and evolution including black holes.

212. Introduction to Astrophysics II. (B)

Physical World Sector. All classes. Prerequisite(s): MATH 114, PHYS 151, or concurrently.

A basic course for majors in astronomy, in other physical sciences, and in engineering. Stars, galaxies, and the evolution of the universe.

L/L 250. Astronomical Techniques. (M)

Prerequisite(s): ASTR 001, or ASTR 007, or ASTR 211, or ASTR 212. If a student has only taken ASTR 001 or ASTR007, MATH 240-241 will also be required. The observatories at DRL are used for experimental and observational practice.

Topics: spherical astronomy, timekeeping/coordinate systems, astrostatistics, telescopes, CCD's, signal

processing, imaging, and data reduction using scientific software, brief introduction to radio astronomy. Three daytime lectures each week plus evening labs in smaller groups. Attendance at one lab session per week is required by each student. Actual observing times may not correspond to the scheduled block due to the uncertainty and unpredictability of weather conditions. Requires substantial out-of-class time dedication and commitment to sharing work in small groups.

392. Life and Death of Stars. (C)

This is an advanced undergraduate course on the life and death of stars. The course will cover the structure of stellar interiors, nuclear reactions and the formation of elements, stellar evolution, supernovae, and the physics of white dwarfs, neutron stars, and black holes. We will approach these topics from both theoretical and observational perspectives.

503. Astronomical Methods and Instrumentation. (M)

Techniques of modern astronomical observations, including: detection of light from the radio through gamma rays; sources of noise in astronomical measurements; image analysis and reduction techniques; telescope optics and adaptive optics; spectroscopic measurements; radio interferometry and spectroscopy.

533. Galaxies: Structure, Dynamics and Formation. (M)

Galactic structure and dynamics. Observed scaling relations. Models and observations of galaxy formation and evolution. Enrollment restricted to graduate students.

BIOCHEMISTRY AND MOLECULAR BIOPHYSICS (MD) {BMB}

508. Macromolecular Biophysics: Principles and Methods. (A) Sharp.

Prerequisite(s): Senior undergraduate or graduate level biochemistry or biophysics.

This course introduces students to the physical and chemical properties of biological macromolecules, including proteins and nucleic acids. It surveys the biophysical techniques used to study the structure and thermodynamics of macromolecules. It is intended to be a first course for graduate students with an undergraduate background in either physics, chemistry or biology, and no necessary background in biochemistry.

509. Structural and Mechanistic Biochemistry. (B) Van Duyne.

Prerequisite(s): BMB 508 and BIOM 600 or permission of course director.

The course will focus on the key biochemical task areas of living cells. The course progresses from primarily molecular level events, such as storage and translation of genetic information, creation, control and removal of proteins, to higher organization levels such as metabolic pathways, signaling pathways, regulation and homeostasis. Each section will cover structure details of the relevant molecules, appropriate binding/catalysis events, regulatory aspects, and how they fit into the relevant pathway(s) and cell function. Material will be covered with a combination of formal lectures and student presentations.

518. (CAMB615, NGG 615) Protein Conformational Diseases. (I) Argon and Schiropoulos. Prerequisite(s): BIOM 600 or equivalent.

Protein misfolding and aggregation has been associated with over 40 human diseases, ranging from Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis, prion diseases, alpha(1)-antitrypsin deficiency, inclusion body myopathy, and systemic amyloidosis. This course will include lectures, directed readings and student presentations to cover seminal and current papers on the cell biology of conformational diseases including topics such as protein folding and misfolding, protein degradation pathways, effects of protein aggregation on cell function, model systems to study protein aggregation and novel approaches to prevent protein aggregation.

554. (CHEM555) Macromolecular Crystallography: Methods and Applications. (A) Marmorstein and Skordalakes. Prerequisite(s):

Undergraduate calculus and trigonometry.

This is an introductory course on methods and applications of macromolecular structure determination using X-ray crystallography. The course will be broken up into three parts: 1) Principles of X-ray crystallography involving didactic lectures on the technique with weekly problem sets; 2) Workshops on macromolecular structure determination involving hands-on experience with the technology; 3) Student "journal club" presentations on current high impact publications involving X-ray crystal structure determination.

560. Methods of Scientific Inquiry in Biological Systems. (B) Wilson and Domotor. Prerequisite(s):

Graduate students in biological sciences or permission of instructors.

The foundational, social and methodological aspects of scientific reasoning in biomedical disciplines are discussed, including: 1) theories, laws, causal/functional explanation and experimental methodology in biology and medicine; 2) case studies in selected fields of biomedical sciences with special regards to strategies in concept and hypothesis formation, discovery, gathering evidence and testing, and 3) social and moral factors pertinent to the research enterprise.

567. (CHEM567) Bioinorganic Chemistry. (C) Dmochowski.

This course covers selected topics in bioinorganic chemistry. Special emphasis is placed on dioxygen chemistry and electron transfer processes. Course topics include: 1) oxygen uptake and utilization; 2) oxygen transport; 3) oxygen and O atom incorporation into substrates; 4) metalloenzyme-catalyzed C-C bond formation; 5) the metallobiochemistry of DNA; 6) metal-sulfide proteins; 7) manganese containing metalloproteins; 8) photosystem II, light-driven electron transfer and the biological water-splitting reaction; 9) biological electron transfer; 10) electron transfer theory; 11) mechanisms of energy storage and release; and 12) long-distance electron transfer reactions.

581. (BE 581) Techniques of Magnetic Resonance Imaging. (K) Song and Wehrli.

Detailed introduction to the physics and engineering of magnetic resonance imaging as applied to medical diagnosis. Covered are magnetism, spatial encoding principles, Fourier analysis, spin relaxation, imaging

pulse sequences and pulse design, contrast mechanisms, chemical shift, flow encoding, diffusion and perfusion and a discussion of the most relevant clinical applications.

585. (GCB 585) Wistar Institute Cancer Biology Course: Signaling Pathways in Cancer. (A) Skordalakes and Murphy. Prerequisite(s):

Undergraduates and Master's degree candidates require permission from the course directors.

This course is intended to provide foundational information about the molecular basis of cancer. When necessary the significance of this information for clinical aspects of cancer is also discussed. The main theme centers around cell cycle checkpoints with specific emphasis on the biochemistry and genetics of DNA damage signaling pathways, DNA damage checkpoints, mitotic checkpoints and their relevance to human cancer. The course is taught by the organizers and guest lecturers from universities and research institutions in the Northeast. Following every lecture, students present a research paper related to the topic of that lecture. The course is intended for first and second year graduate students but all graduate students are welcome to attend.

598. Tutorial. (S) Kim Sharp and staff.

The tutorial course is designed for in-depth study of a specific topic through one-on-one meetings and discussions between the student and a selected BMB faculty member. The intent of the course is to broaden the students knowledge, thus the tutorial may not be taken with the student's current rotation advisor or thesis advisor. Choice of faculty member and topic is by prior mutual agreement between the student and faculty member, subject to approval by the course director. Student and faculty member will typically meet for an hour or so 2 - 3 times per week. The course may take the form of literature study, or where appropriate, a mini-project (typically computer-based) A tutorial can be used by students to become more deeply acquainted with the literature related to their thesis project or to help prepare students for their Candidacy Exam. Upon completion of the tutorial, students must prepare a written description of the area studied (5-10 typewritten pages)

601. Fundamentals of Magnetic Resonance. (I) Reddy.

This course introduces basic theoretical and experimental concepts of magnetic resonance and its applications in biochemistry, biology and medicine. Topics covered include description of the

phenomenon of magnetic resonance, and classical and quantum strategies to compute nuclear spin responses in liquids, solids and biological tissues, polarization transfer and multiple quantum effects and their applications in biomedicine. Nuclear spin relaxation in solid-state materials and in biological systems will be discussed. Concepts of magnetic resonance imaging, imaging strategies, image contrast, and diagnostic applications are discussed. The course includes several practicals dealing with the demonstration of NMR hardware and experiments to compute basic NMR parameters on high resolution and clinical MRI scanners. For further details of this course, visit www.mmrrcc.upenn.edu

602. Imaging Biomarkers. (K) Reddy (course director), Borthakur, Elliot, Hariharan. Prerequisite(s): BMB 601 or permission of course director; students with prior NMR and MRI background will be given priority. Course meets for eight weeks (1/2 credit).

Introduction to principles of imaging based biomarkers for studying metabolic and functional integrity of biological tissues in vivo. Topics covered include a general overview of multimodal imaging biomarkers and a special emphasis on theoretical and practical aspects of MRI biomarkers based on magnetic resonance relaxation, chemical exchange, and metabolic spectroscopy as well as functional responses and their applications in diagnostic imaging of different diseases.

618. Applications of High Resolution NMR Spectroscopy to Problems in Structural Biology. (I) Wand. Prerequisite(s): Undergraduate biochemistry and physical chemistry and BMB 601, or permission of instructor. Course meets for 8 weeks and is offered for 1/2 credit.

A lecture-based course designed to introduce graduate students to applications of modern high-resolution multinuclear and multidimensional NMR spectroscopy to problems in structural biology. The course will first introduce classical definitions and descriptions of nuclear magnetic resonance and a convenient formalism for the analysis of advanced NMR experiments. Concepts and applications of multidimensional homonuclear ^1H NMR and multidimensional heteronuclear spectroscopy of proteins and nucleic acids will be described. Resonance assignment strategies including analysis of triple resonance spectroscopy will be covered. The origin, measurement and extraction of structural restraints and their use in

structure determination will be surveyed and illustrated with recent examples.

619. Protein Folding. (J) Axelsen and Englander. Course meets for 8 weeks and is offered for 1/2 credit.

Introduction to the folding of mainly soluble proteins but also membrane proteins. Critical readings in the current literature and important earlier literature. Class discussion of papers from the literature with didactic lectures as required. Exposure to principles and use of equilibrium, kinetics, thermodynamics and the range of biophysical technologies as they occur in the scientific literature.

622. Physical Principles of Mechano-Enzymes. (J) Dominguez, Goldman, Grishchuk and Ostap. Prerequisite(s): Biochemistry. Course meets for 8 weeks and is offered for 1/2 credit.

This course will provide an introduction to the biochemical, structural, and mechanical properties of energy-transducing enzymes. We will emphasize the relationships of mechanical, thermal, and chemical forces in mechano-enzyme function.

624. Molecular and Physical Basis of Ion Channels. (K) Kallen. Course meets all semester (half time) for 1/2 credit.

The course is a journal club format, targeted to graduate and MD/PhD students interested in ion channels from graduate programs in Physiology, Pathology, Neuroscience, Pharmacology, Biochemistry & Molecular Biophysics. It meets for one hour, once a week on alternate weeks and is coupled to the Ion Channel Journal Club, which also meets for one hour on the same alternate weeks (9:30-10:30 a.m., Thursdays, B400 Richards Building). A faculty member meets with students to discuss and review the contents of each selected article early in the week in preparation for the subsequent Journal Club presentation. This elective course is meant to introduce students to the latest advances in ion channel research and includes topics extending from biophysics, structure, and physiology to cell biology and medical applications.

626. Mass Spectrometry and Proteomics. (J) Speicher and Garcia. Course meets for 8 weeks and is offered for 1/2 credit.

This course will provide a detailed introduction to proteomics and mass spectrometry. The role of mass spectrometry in both characterizing proteins for traditional protein structure-function studies and identification of proteins in proteome studies will be

emphasized. Targeted and global proteomes, quantitative protein profiling and compositional proteomics, and applications of proteome studies will be discussed. Intended for first and second year graduate students and others with an interest in proteomics and mass spectrometry.

627. Computer Programming for Biochemists and Biophysicists. (J) Sharp and Van Duyne. Prerequisite(s): Permission of instructor for nonBMB students. Course meets for eight weeks and is offered for 1/2 credit.

An introductory course on programming and algorithms for scientists with an emphasis on applications to biophysics. Students will learn to write, debug, and execute basic programs through lectures, in-class workshops, and programming projects outside of class.

628. Principles of Scientific Instruments. (J) Liebman. Course meets for eight weeks and is offered for 1/2 credit.

Proper use of the tools of one's trade is essential to quality assurance. General confidence in the infallibility of even simple scientific instruments (SI) can be the cause of serious misapplication of research effort. This course teaches how to think about and use all SI's intelligently. It reviews first principles of instrument detection, selection, operation, calibration, truth-testing, trouble shooting and data analysis. Error appraisal and avoidance are analyzed using common laboratory examples. Anyone who cares is welcome. And we should all care. Emphasis sculpted to student needs.

629. Quantitative Problems in Biochemistry. (H) Kallen. Course meets for 8 weeks for 1/2 credit.

Students will be assigned problems in a range of topics, including thermodynamics, enzyme kinetics, redox potentials, and will present their answers in class. This course is intended to complement material covered in BMB 508 and 509, providing a rigorous review of quantitative methods.

632. Probing Structure and Function of Complex RNA-Protein Machines. (H) Lynch.

RNA-Protein complexes or RNPs can range from simple assemblies to megadalton enzymatic machines. The latter include two of the most abundant and essential enzymatic complexes for converting genes to functional protein -the ribosome and the spliceosome. Understanding the molecular interactions

that hold these RNPs together and how these complexes function has required the development of new techniques and pushed the boundaries of quantitative biochemistry. In this course we will take an in-depth look at general concepts common to many RNA binding proteins, the methods used to study protein-RNA and RNA-RNA interactions, and how the complex nature of large RNPs uniquely allow them to achieve their precise functions. The course will be a combination of both lectures and student-lead discussion of recent literature. Students will be evaluated based on their presentations of primary literature and their participation in class discussion.

SM 650. (CAMB702, PHRM650) Current Biochemical Topics. (S)

Black and Shorter. Prerequisite(s): Permission needed from Department. Participation in the "Dr. George W. Raiziss Biochemical Rounds", a weekly seminar program sponsored by the Department of Biochemistry and Biophysics. Program deals with a wide range of modern biochemical and biophysical topics presented by established investigators selected from our faculty, and by leading scientists from other institutions.

699. Laboratory Rotation. (S) Kohli.

Supervised "mini-projects" for graduate students in Biochemistry and Molecular Biophysics. End of the semester requirements are 1) poster presentations; 2) written rotation summaries; or 3) talks. Course is offered fall, winter, spring, and summer semesters.

700. (CHEM700, PHRM630) Selected Topics in Chemistry. (B) Petersson.

Prerequisite(s): Strong background in undergraduate chemistry required and at least one semester of biological chemistry desirable.

The course will focus on current topics in chemical biology, particularly experiments in which 1) chemical synthesis enables one to probe or control biological systems in novel ways or 2) manipulation of biological systems facilitates novel chemical syntheses. As the goal of the course is to familiarize students with innovative recent experimental approaches and to stimulate them to conceive of their own new methodology, students will be responsible for delivering presentations on topics selected from the literature and generating several novel research proposal ideas, one of which will be elaborated into a full

proposal. The prepared seminar will allow students to explore topics not covered in Professor Petersson's lectures or to research one of those topics in more depth. The proposal will be evaluated for creativity, feasibility and impact.

SM 705. Candidacy Exam Preparation Course. (B) Marmorstein,

Lynch and Nelson. Course meets for 8 weeks at the beginning of the spring semester, for 1/2 credit.

This course is designed for second year BMB students to prepare them for the Candidacy Examination, which must be completed in the spring semester of the second year.

799. Independent Study (Yrs 1 - 2). Staff.

899. PRE-DISSERATION LAB.

990. Master's Thesis Research. (C) Staff. See Department for section numbers.

995. Dissertation Research. Staff. See Department for section numbers.

BIOENGINEERING (EG) {BE}

100. Introduction to Bioengineering.

(A) Corequisite(s): MATH 104, PHYS 140 or 150. Freshmen Only. Freshmen Only.

Survey course introducing students to the breadth of bioengineering. Course consists of introductory lectures, guest speakers/panelists, and a series of small assignments that allow students to explore different facets of bioengineering and the Penn Bioengineering program.

101. Introduction to Bioengineering II.

(A) Prerequisite(s): BE 100. Freshmen Only. Introduction to Bioengineering II. Continuation of the freshman introductory bioengineering course. This course introduces students to the design process and emphasizes its role in engineering.

L/R 200. Introduction to

Biomechanics. (A) Prerequisite(s): MATH 114, PHYS 140, or PHYS 150. Corequisite(s): MATH 240.

This course investigates the application of statics and strength of materials to soft and hard biologic tissues. The course will cover simple force analyses of the musculoskeletal system and introduces the fundamentals of the mechanics of materials including axial loading, torsion and bending and their application to biomechanics. The lecture and recitation will be complemented with hands-on examples emphasizing connections between theoretical principles and practical applications.

L/L 220. Biomaterials. (B)

Prerequisite(s): BE 200, CHEM 102.

This course investigates the application of materials science and engineering to biomedical applications, with a focus on polymers, ceramics, and metals. The course will cover concepts related to basic material fabrication and synthesis, structure and property characterization, as well as applications of biomaterials. The lecture and recitation will be complemented with laboratory examples of material assessment and characterization.

SM 225. Technology and Engineering in Medicine. (C)

Prerequisite(s): Math 114, Physics 140 and 141 or Physics 150 and 151; sophomore and higher only.

The course is appropriate for engineering and science majors and premeds. This engineering course will provide an examination of technology and its design and its impact on medicine with an

emphasis on the intersection of engineering with medicine and health. Modules will focus on specific technological advances as a basis for the discussion. Planned topics change from year to year and include, for example, cochlear implants and visual sensory rehabilitative devices. The course includes homework and reading assignments. Every student presents a paper on a relevant biomedical technology.

L/R 301. Bioengineering Signals and Systems. (A)

Prerequisite(s): MATH 241, PHYS 141 OR 151, ENGR 105 (can be taken as a corequisite).

Properties of signals and systems; Examples of biological and biomedical signal and systems; Signal operations, continuous and discrete signals; Linear, time invariant systems; Time domain analysis; Systems characterized by linear constant-coefficient differential equations; Fourier analysis with applications to biomedical signals and systems; Introduction to filtering; Sampling and the sampling theorem. Examples vary from year to year, but usually include signals such as the ECG and blood pressure wave, principles of signal coding in the auditory system and cochlear implants, and simple applications in biomedical imaging.

L/R 305. Engineering Principles of Human Physiology. (B)

Prerequisite(s): MATH 241.

Quantitative analysis of cellular and systems-level human physiology. Emphasis is on the neural, cardiovascular, musculoskeletal, and pulmonary systems.

L/R 306. Molecular Physiology and Cellular Engineering from Atoms to Disease.

Prerequisite(s): CHEM 102, MATH 241, PHYS 140/141, BIOL 121.

This course explores physical biology of the cell across several length and timescales, while simultaneously emphasizing molecular specificity and clinical implications such as disease outcome or biomedical applications. The course emphasizes how the basic tools and insights of engineering, physics, chemistry, and mathematics combined with "Big Data" can illuminate the study of molecular and cell biology to make predictive biomedical models and subject them to clinical validation. Drawing on key examples and seminal experiments from the current clinical literature, the course demonstrates how quantitative models can help refine our understanding of existing biological data and also be used to make useful clinical predictions. The course blends traditional models in cell biology with the quantitative approach typical in engineering, in order to

introduce the student to both the possibilities and boundaries of the emerging field of physical systems biology. While teaching physical model building in cell biology through a practical, case-study approach, the course explores how quantitative modeling based on engineering principles can be used to build a more profound, intuitive understanding of cell biology. Lab modules will be embedded in the lectures and all labs will be in silico (or computational) in nature.

L/L 309. Bioengineering Lab I. (A)

Prerequisite(s): ENGR 105, PHYS 141/151, MATH 240, BE 200, BE 220.

The first of two laboratory courses that are taken during the junior year. The goal of these laboratories is to provide students with hands-on experience in utilizing fundamental engineering skills to solve complex medical problems. Topics vary from year to year but generally include instrumentation, analog and electronics, fluid transport, pharmacokinetics, and engineering physiology. The course includes a lecture component and laboratory experiments. Students work in teams and submit assignments, a midterm, lab reports, and a final lab practical.

L/L 310. Bioengineering Lab II. (B)

Prerequisite(s): ENGR 105, PHYS 141/151, BE 220, BIOL 121/123, MATH 240. Corequisite(s): MATH 241, BE 301.

The second of two laboratory courses that are taken during the junior year. The goal of these laboratories is to provide students with hands-on experience in utilizing fundamental engineering skills to solve complex medically relevant problems. Topics vary from year to year but generally include instrumentation, analog and digital electronics, signals and systems, microfluidics, synthetic biology, and rapid prototyping. The course includes a lecture component and laboratory experiments. Students work in teams and submit assignments, lab reports, and a final lab practical.

L/R 324. Chemical Basis of

Bioengineering II. (A) Prerequisite(s): PHYS 140, 141 or 150, 151, MATH 240, CHEM 101, 102.

Advanced topics in physical chemistry including solution and colloid chemistry, electrochemistry, surface phenomena, and macromolecules applied to biological systems.

330. (MSE 330) Soft Materials. (C)

Prerequisite(s): Juniors and higher, CHEM 102.

This course will serve as an introduction of soft condensed matter to students with background in chemistry, physics and engineering. It covers general aspects of fundamental interactions between soft materials with applications involving polymers, colloids, liquid crystals, amphiphiles, food and biomaterials.

L/R 350. Introduction to Biotransport Processes. (B) Prerequisite(s): MATH 241, PHYS 140 or 150.

Introduction to basic principles of fluid mechanics and of energy and mass transport with emphasis on applications to living systems and biomedical devices.

400. Preceptorship in Clinical Bioengineering. (B) Junior and Senior BE majors only.

Introduction to the integration of biomedical engineering in clinical medicine through lectures and a preceptorship with clinical faculty. This course is for BE majors ONLY, with preference given to BSE students.

440. (BE 540) Biomolecular and Cellular Engineering. (C)

This course will introduce concepts and methods for the quantitative understanding of molecular and cellular phenomena. Topics include molecular recognition, receptor-ligand binding, viral infection, signal transduction, cell adhesion, motility, and cytoskeletal dynamics. The course requires mathematics at the level of differential equations, and some knowledge of Matlab programming. A basic knowledge of cell biology is suggested, although not required.

441. Engineering Microbial Systems. (C) Prerequisite(s): Biol 121.

This course is designed to expose students to the principles underlying engineering microbial systems. The fundamentals of DNA, RNA, and proteins will be reviewed. An emphasis will be placed on recombinant DNA technologies, mutagenesis, cloning, gene knockouts, altered gene expression and analysis, with practical real world examples of their application. Throughout this course we will also focus on case studies and critical literature evaluation.

455. (MEAM455) Continuum Biomechanics. (A) Prerequisite(s): Math through 241; BE 200 or MEAM 210; BE 350 or MEAM 302.

Continuum mechanics with applications to biological systems. Fundamental engineering conservation laws are introduced and illustrated using biological and non-biological examples. Kinematics of deformation, stress, and conservation of mass, momentum, and energy. Constitutive equations for fluids, solids, and intermediate types of media are described and applied to selected biological examples. Class work is complemented by computational laboratory experiences.

470. Medical Devices. (C)

Prerequisite(s): Junior or Senior BE Majors only, ENRG 105, permission of the instructor. Students who have taken ESE 350 or a similar course may not enroll.

Lab-based course where students learn the fundamentals of medical device design through hands-on projects using microcontrollers. Students first learn basic design building blocks regularly employed in microcontroller-based medical devices, and then carry out a small design project using those building blocks. Projects are informed by reverse-engineering of competing products, FDA regulations, and marketplace considerations.

480. Introduction to Biomedical Imaging. (C) Prerequisite(s): BE 301 or ESE 325.

Introduction to the mathematical, physical and engineering design principles underlying modern medical imaging systems including x-ray computed tomography, ultrasonic imaging, and magnetic resonance imaging. Mathematical tools including Fourier analysis and the sampling theorem. The Radon transform and related transforms. Filtered backprojection and other reconstruction algorithms. Bloch equations, free induction decay, spin echoes and gradient echoes. Applications include one-dimensional Fourier magnetic resonance imaging, three-dimensional magnetic resonance imaging and slice excitation.

483. (BE 583, MMP 507) Molecular Imaging. (C) Prerequisite(s): MATH 241, BIOL 215 or BE 305.

This course will provide a comprehensive survey of modern medical imaging modalities and the emerging field of molecular imaging. The basic principles of X-ray, ultrasound, nuclear imaging, and magnetic resonance imaging will be reviewed. The course will also cover

concepts related to contrast media and targeted molecular imaging. Topics to be covered include the chemistry and mechanisms of various contrast agents, approaches to identifying molecular markers of disease, ligand screening strategies, and the basic principles of toxicology and pharmacology relevant to imaging agents.

490. Independent Project in Bioengineering. (C) Prerequisite(s):

Sophomore, Junior and Senior BE majors only.

An intensive independent study experience on an engineering or biological science problem related to bioengineering. Requires preparation of a proposal, literature evaluation, and preparation of a paper and presentation. Regular progress reports and meetings with faculty advisor are required.

492. Independent Project in Bioengineering. (C) Prerequisite(s): Sophomore, Junior and Senior BE majors only.

Second semester of an independent project.

495. Senior Design Project. (A)

Prerequisite(s): Seniors in BE or Department Permission.

Group design projects in various areas of bioengineering. Projects are chosen by the students with approval of the instructor in the Spring semester of the Junior year and refined during the Fall semester. The course guides the students through choosing and understanding a biomedical problem, defining characteristics of a successful design solution, creatively developing potential approaches to designing solutions to eliminate or mitigate the problem, choosing, iteratively refining, and implementing a particular solution, and evaluating how well the solution fulfills the need. Final oral and written reports are required. Also emphasized are teamwork, project management, time management, regulations/standards, and effective communication.

496. Senior Design Project. (B)

Prerequisite(s): Seniors in BE or Department Permission.

Second semester of a two semester design project.

497. Senior Thesis in Biomedical Science. (A) Prerequisite(s): Seniors in BAS or Department Permission.

An intensive independent project experience incorporating both technical and non-technical aspects of the student's chosen career path. Chosen topic should

incorporate elements from the student's career path electives, and may involve advisors for both technical and non-technical elements. Topics may range from biomedical research to societal, technological and business aspects of Bioengineering. A proposal, regular progress reports and meetings with a faculty advisor, a written thesis, and a presentation are required.

498. Senior Thesis in Biomedical Science. (B) Prerequisite(s): Seniors in BAS or Department Permission.

Second semester of a year-long project.

502. From Biomedical Science to the Marketplace. (C) Prerequisite(s):

Graduate students or permission of the instructor.

This course explores the transition from discovery of fundamental knowledge to its ultimate application in a clinical device or drug. Emphasis is placed upon factors that influence this transition and upon the integrative requirements across many fields necessary to achieve commercial success. Special emphasis is placed on entrepreneurial strategies, intellectual property, financing and the FDA process of proving safety and efficacy. Current public companies in the medical device and drug industry are studied in detail and critiqued against principles developed in class.

504. Biological Data Science II: Data Mining Principles for Epigenomics. (C) Prerequisite(s): Graduate students or permission of the instructor.

This course will teach upper level undergraduates and graduate students how to answer biological questions by harnessing the wealth of genomic and epigenomic data sets generated by high-throughput technologies such as microarrays and deep sequencing.

505. Quantitative Human Physiology. (C) Prerequisite(s): Graduate students or permission of the instructor.

Introduction to human physiology using the quantitative methods of engineering and physical science. Emphasis is on the operation of the major organ systems at both the macroscopic and cellular level.

Introduction to human physiology using the quantitative methods of engineering and physical science. Emphasis is on the operation of the major organ systems at both the macroscopic and cellular level.

510. Biomechanics and Biotransport. (C) Prerequisite(s): MATH 241, BE 200, 350.

The course is intended as an introduction to continuum mechanics in both solid and fluid media, with special emphasis on the application to biomedical engineering. Once basic principles are established, the course will cover more advanced concepts

in biosolid mechanics that include computational mechanics and bio-constitutive theory. Applications of these advanced concepts to current research problems will be emphasized.

512. Bioengineering III:

Biomaterials. (C) Prerequisite(s): General Chemistry, basic biomechanics.

This course provides a comprehensive background in biomaterials. It covers surface properties, mechanical behavior and tissue response of ceramics, polymers and metals used in the body. It also builds on this knowledge to address aspects of tissue engineering, particularly the substrate component of engineering tissue and organs.

514. (IPD 504) Rehab Engineering and Design. (C) Prerequisite(s): Graduate students or permission of the instructor.

Graduate students or permission of the instructor.

Students will learn about problems faced by disabled persons and medical rehabilitation specialists, and how engineering design can be used to solve and ameliorate those problems. The course combines lectures, multiple design projects and exercises, and field trips to clinical rehabilitation facilities. Students will have substantial interaction with clinical faculty, as well as with patients.

515. Bioengineering Case Studies. (C) Prerequisite(s): Graduate students or permission of the instructor.

Graduate students or permission of the instructor.

This course introduces students to bioengineering research and development as related to meeting clinical needs. The course is broadly organized about the question of "what makes medical technology work". It introduces students to the assessment of medical technology including studies to evaluate safety and effectiveness of new devices. Introduction to regulatory, ethical, legal, and economic issues as they relate to the success of new medical technologies. The course will be taught through examination of case studies, which may vary from year to year. Recent case studies included mammography, heart assist devices and the artificial heart, hyperthermia, safety of radiofrequency energy. The course will include experts (both in person and via teleconferences) and student presentations in addition to lectures by the instructor.

L/R 518. Optical Microscopy. (C)

Prerequisite(s): Graduate students or permission of the instructor.

An introduction to the fundamental concepts of optics and microscopy. Geometrical optics: ray tracing, optical elements, imaging systems, optical

aberrations. Physical optics: the electromagnetic spectrum, the wave equation, diffraction, interference and interferometers, optical resolution limits, optical coherence, lasers. Microscopy methods: phase contrast, differential interference contrast, fluorescence microscopy, confocal microscopy, multiphoton microscopy, optical coherence tomography, superresolution microscopy.

L/R 521. (NGG 521) Brain-Computer Interfaces. (C) Prerequisite(s): BE 301 (Signals and Systems) or equivalent, computer programming experience, preferably MATLAB (e.g., as used the BE labs, BE 310). Some basic neuroscience background (e.g. BIOL 215, BE 305, INSC core course), or independent study in neuroscience, is required. This requirement may be waived based upon practical experience on a case by case basis by the instructor.

The course is geared to advanced undergraduate and graduate students interested in understanding the basics of implantable neuro-devices, their design, practical implementation, approval, and use. Reading will cover the basics of neuro signals, recording, analysis, classification, modulation, and fundamental principals of Brain-Machine Interfaces. The course will be based upon twice weekly lectures and "hands-on" weekly assignments that teach basic signal recording, feature extraction, classification and practical implementation in clinical systems. Assignments will build incrementally toward constructing a complete, functional BMI system. Fundamental concepts in neurosignals, hardware and software will be reinforced by practical examples and in-depth study. Guest lecturers and demonstrations will supplement regular lectures.

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530. (PHYS585) Theoretical Neuroscience. (C) Prerequisite(s): Knowledge of multivariable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.

Knowledge of multivariable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.

This course will develop theoretical and computational approaches to structural and functional organization in the brain. The course will cover: (i) the basic biophysics of neural responses, (ii) neural coding and decoding with an emphasis on sensory systems, (iii) approaches to the study of networks of neurons, (iv) models of adaptation, learning and memory, (v) models of decision making, and (vi) ideas that address why the brain is organized the way that it is. The course will be

appropriate for advanced undergraduates and beginning graduate students.

537. (CIS 537) Biomedical Image Analysis. (C) Prerequisite(s): Math through multivariate calculus (MATH 241), programming experience, as well as some familiarity with linear algebra, basic physics, and statistics.

This course covers the fundamentals of advanced quantitative image analysis that apply to all of the major and emerging modalities in biological/biomaterials imaging and in vivo biomedical imaging. While traditional image processing techniques will be discussed to provide context, the emphasis will be on cutting edge aspects of all areas of image analysis (including registration, segmentation, and high-dimensional statistical analysis). Significant coverage of state-of-the-art biomedical research and clinical applications will be incorporated to reinforce the theoretical basis of the analysis methods.

L/R 540. (BE 440, CBE 540) Biomolecular and Cellular Engineering. (C) Prerequisite(s): Graduate students or permission of the instructor.

This course will introduce concepts and methods for the quantitative understanding of molecular and cellular phenomena. Topics include molecular recognition, receptor-ligand binding, viral infection, signal transduction, cell adhesion, motility, and cytoskeletal dynamics. The course requires mathematics at the level of differential equations, and some knowledge of Matlab programming. A basic knowledge of cell biology is suggested, although not required.

541. (CBE 541) Engineering and Biological Principles in Cancer. (B) Prerequisite(s): Seniors in BE or permission of the instructor.

This course provides an integrative framework and provides a quantitative foundation for understanding molecular and cellular mechanisms in cancer. The topics are divided into three classes: (1) the biological basis of cancer; (2) cancer systems biology; and (3) multiscale cancer modeling. Emphasis is placed on quantitative models and paradigms and on integrating bioengineering principles with cancer biology.

L/L 546. Fundamental Techniques of Imaging I. (C) Prerequisite(s): Graduate students or permission of the instructor.

This course covers the fundamentals of modern techniques in biological and in vivo

biomedical imaging. This practical course consists of a series of hands-on lab exercises, covering major imaging modalities, but also extends to non-radiology modalities of interest in biological, pathological or animal imaging (e.g., optical imaging). Topics include x-ray, mammography, MRS, MRI, PET, and ultrasound. The emphasis will be on hands-on aspects of all areas of imaging and imaging analysis. Small groups of students will be led by a faculty member with technical assistance as appropriate.

L/L 547. Fundamental Techniques of Imaging 2. (C) Prerequisite(s): Graduate students or permission of the instructor.

This course is a continuation of the course Fundamental Techniques of Imaging 1 (BE546). It builds upon the fall course instruction and continues to expose students to the fundamentals of modern techniques in biological and in vivo biomedical imaging. This course consists of a series of hands-on lab exercises, covering major imaging modalities, but also extends to non-radiology modalities of interest in biological, pathological or animal imaging (e.g., optical imaging). Topics include SPECT, Micro-CT, diffuse optical spectroscopy, in vivo fluorescence imaging, and computed tomography. The course will continue to emphasize the hands-on aspects of all areas of imaging and imaging analysis. Small groups of students will be led by a faculty member with technical assistance as appropriate.

551. BIOMICROFLUIDICS. (C) Prerequisite(s): Experience with an undergraduate level fluid mechanics course is preferred. Examples of relevant SEAS courses include BE 350 (Biotransport), CBE 350 (Fluid Mechanics), and MEAM 302 (Fluid Mechanics).

The focus of this course is on microfluidics for biomedical applications. Topics to be covered in the first half of this course include microscale phenomena, small-scale fabrication techniques, and sensing technologies that are often leveraged in the development of microfluidic systems for the study of biomolecules, cells, tissues, and organs in living biological systems. In the second half of this course, strong emphasis will be placed on the application of microfluidics in cell biology, bioanalytical chemistry, molecular biology, tissue engineering, and drug discovery.

553. Principles, Methods, and Applications of Tissue Engineering. (C) Prerequisite(s): Graduate Standing or instructor's permission.

Tissue engineering demonstrates enormous potential for improving human health. This course explores principles of tissue engineering, drawing upon diverse fields such as developmental biology, cell biology, physiology, transport phenomena, material science, and polymer chemistry. Current and developing methods of tissue engineering, as well as specific applications will be discussed in the context of these principles. A significant component of the course will involve review of current literature within this developing field.

554. (CBE 554) Engineering Biotechnology. (M) Prerequisite(s): Graduate standing or permission of the instructor.

Advanced study of re DNA techniques; bioreactor design for bacteria, mammalian and insect culture; separation methods; chromatography; drug and cell delivery systems; gene therapy; and diagnostics.

L/R 555. (BE 444, CBE 555, MEAM555) Nanoscale Systems Biology. (C) Prerequisite(s): Background in Biology, Chemistry or Engineering with coursework in thermodynamics or permission of the instructor.

From single cell manipulations down to studies of single nanoparticles and single molecules, basic cell- molecular biology and biotechnologies are increasingly 'nano' as well as quantitative. Lectures and laboratories in this course start with nano aspects of optical detection, address the basic thermodynamics of biomolecular interactions, and then cover genomic scale devices. Nanoprobe methods are then complemented by basic theories of self-assembly and polymers as well as application in drug delivery and virus engineering with analyses of limitations imposed by the innate immune system. Skills in analytical and professional presentations, papers and laboratory work will be developed.

L/R 557. (CBE 582) From Cells to Tissue: Engineering Structure and Function. (C) Prerequisite(s): Math through 241; BE350, BE324 as pre- or corequisites; Molecular & cellular biology.

The goal of this course is to introduce students to quantitative concepts in understanding and manipulating the behavior of biological cells. We will try to understand the interplay between molecules in cells and cell function. A particular focus is on receptors - cell surface

molecules that mediate cell responses. We will also try to understand processes such as adhesion, motility, cytoskeleton, signal transduction, differentiation, and gene regulation.

L/R 558. Principles of Biological Fabrication. (C) Prerequisite(s): Graduate standing or permission of the instructor.

BE 558 introduces methodological approaches that are currently used for the de novo construction of biological molecules - primarily, nucleic acids and proteins - and how to use these molecules to engineer the properties of cells and intact tissue. By the end of the semester, students should (i) possess a molecular-scale understanding of key biological synthesis and assembly processes, (ii) gain an intuition for how to create novel methodologies based on these existing processes, and (iii) appreciate the drivers of technology adoption. Course content will be placed in context of cutting edge applications in bioengineering and human health.

L/R 559. Multiscale Modeling of Biological Systems. (C) Prerequisite(s): Undergraduates who have taken BE 324 or equivalent courses in Quantum Mechanics and/or Statistical Physics need no permission. Others, email instructor for permission.

This course aims to provide theoretical, conceptual, and hands-on modeling experience on three different length and time scales that are crucial to biochemical phenomena in cells and to nanotechnology applications. Special Emphasis will be on cellular signal transduction. 60% lectures, 40% computational laboratory. No programming skills required.

561. Musculoskeletal Biology and Biomechanics. (B) Prerequisite(s): Graduate student standing in Engineering and/or CMB. Undergraduate students with permission of the instructor.

The goal of this course is to educate students in core principles and expose them to cutting-edge research in musculoskeletal biology and bioengineering through (1) lectures covering the basic engineering principles, biological fundamentals, and clinical practices involved in the function, repair, and regeneration of the musculoskeletal tissues; (2) critical review and presentation by student groups of recent and seminal publications in the field related to the basic science, translation, and clinical practice of musculoskeletal biology and bioengineering, with discussion input by faculty members with relevant expertise. This course will place an emphasis on

delivering multidisciplinary knowledge of cell and molecular biology, mechanics, material science, imaging, and clinical medicine as it relates to the field of musculoskeletal bioengineering and science.

562. (CBE 562) Drug Discovery & Development. (C) Prerequisite(s): Graduate standing or permission of the instructor.

This course covers topics such as drug discovery targets, drug development, high throughput screening, solid phase synthesis, instrumentation, Lab-on-a-chip, pharmacokinetics, and drug delivery.

566. (ESE 566) Network Neuroscience. (C) Prerequisite(s): Graduate standing or permission of the instructor. Experience with Linear Algebra and MATLAB.

The human brain produces complex functions using a range of system components over varying temporal and spatial scales. These components are coupled together by heterogeneous interactions, forming an intricate information-processing network. In this course, we will cover the use of network science in understanding such large-scale and neuronal-level brain circuitry.

L/R 567. (AMCS567, GCB 567) Mathematical Computation Methods for Modeling Biological Systems. (C) Prerequisite(s): BE 324 and BE 350.

This course will cover topics in systems biology at the molecular/cellular scale. The emphasis will be on quantitative aspects of molecular biology, with possible subjects including probabilistic aspects of DNA replication, transcription, translation, as well as gene regulatory networks and signaling. The class will involve analyzing and simulating models of biological behavior using MATLAB.

L/L 570. Biomechanics. (C) Prerequisite(s): A first course in programming. Senior standing in BE or permission of the instructor.

Mechatronics is the combination of mechanical, electrical and computer engineering principles in the design of electromechanical systems. Biomechanics is the application of these principles to human biology and includes orthopaedic, hearing, respiratory, vision and cardiovascular applications. In this hands-on, project-based course, these biomechanical systems will be explored. Students will learn the basic mechanical and electrical elements needed to complete a biomechanical design challenge

including basic circuits, design considerations, material fabrication, microcontrollers and mechanisms (e.g. converting rotational motion into linear motion). Students will carry out a final design project utilizing these building blocks.

575. Injury Biomechanics. (C) Prerequisite(s): ENM 500 or 510, BE 510 or MEAM 519 or equivalent. A background in physiology and anatomy is also recommended.

This course is intended as an introduction to investigating the mechanics of injury, from the organism to the tissue level. The students will be exposed to both formal didactic instruction and selected field work. The course will cover principles in continuum and analytical mechanics, and will use application in injury research to illustrate these concepts. The course will be divided into three major units. The first unit will be an introduction to variational principles of mechanics and calculus of variations, and will apply these concepts to injury problems (e.g., occupant kinematics during a collision, vehicle kinematics, impact to padded surfaces). Special emphasis will be placed on converting a system input into a body response. The second unit of the course will be used to discuss the effect of gross body motion on tissue and organ mechanical response. Material models of biological tissue will be discussed, and examples relating body motion to tissue response will be reviewed. In the final unit of this course, students are required to research and review a problem of their choice and present a report detailing an engineering based solution to the problem.

580. (PHYS582) Medical Radiation Engineering. (C) Prerequisite(s): Junior standing.

This course in medical radiation physics investigates electromagnetic and particulate radiation and its interaction with matter. The theory of radiation transport and the basic concept of dosimetry will be presented. The principles of radiation detectors and radiation protection will be discussed.

581. (BMB 581) Techniques of Magnetic Resonance Imaging. (M) Prerequisite(s): Graduate standing or permission of the instructor.

Detailed survey of the physics and engineering of magnetic resonance imaging as applied to medical diagnosis. Covered are: history of MRI, fundamentals of electromagnetism, spin and magnetic moment, Bloch equations, spin relaxation,

image contrast mechanisms, spatial encoding principles, Fourier reconstruction, imaging pulse sequences and pulse design, high-speeding imaging techniques, effects of motion, non-Cartesian sampling strategies, chemical shift encoding, flow encoding, susceptibility boundary effects, diffusion and perfusion imaging.

583. (BE 483, MMP 507) Molecular Imaging. (C) Prerequisite(s): MATH 241, BIOL 215 or BE 305.

This course will provide a comprehensive survey of modern medical imaging modalities and the emerging field of molecular imaging. The basic principles of X-ray, ultrasound, nuclear imaging, and magnetic resonance imaging will be reviewed. The course will also cover concepts related to contrast media and targeted molecular imaging. Topics to be covered include the chemistry and mechanisms of various contrast agents, approaches to identifying molecular markers of disease, ligand screening strategies, and the basic principles of toxicology and pharmacology relevant to imaging agents.

584. (MATH584) Mathematics of Medical Imaging and Measurements. (M) Prerequisite(s): Math through 241 as well as some familiarity with linear algebra and basic physics.

In the last 25 years there has been a revolution in image reconstruction techniques in fields from astrophysics to electron microscopy and most notably in medical imaging. In each of these fields one would like to have a precise picture of a 2 or 3 dimensional object, which cannot be obtained directly. The data that is accessible is typically some collection of weighted averages. The problem of image reconstruction is to build an object out of the averaged data and then estimate how close the reconstruction is to the actual object. In this course we introduce the mathematical techniques used to model measurements and reconstruct images. As a simple representative case we study transmission X-ray tomography (CT). In this context we cover the basic principles of mathematical analysis, the Fourier transform, interpolation and approximation of functions, sampling theory, digital filtering and noise analysis.

586. Signal Analysis & Process. (A) Prerequisite(s): BE 301.

This course takes off where BE 301 ends. The course will add new topics and methods as well as depth and rigor accompanied with biomedical applications.

In particular, the course will emphasize discrete-time signal processing, relationship between continuous-time and discrete-time signals, Fourier transform methods, filtering, signal sampling, and reconstruction and biomedical applications.

597. Master's Thesis Research. (C)

For students working on an advanced research program leading to the completion of master's thesis.

599. Master's Independent Study. (C)

The purpose of BE 599 is to allow a student to create a customized curriculum to study material beyond or outside the scope of our standard BE course offerings. Independent study is NOT a research or design project, it is a one-on-one or small-group course with a professor. The course should require an effort comparable to that of a regular course, about 10-12 hours per week. A paper or presentation is required

608. (MTR 620) Translational Therapeuti. (B) Prerequisite(s):

Engineering students only or permission of the instructor.

612. Materials Affecting Cell and Molecular Function. (M) Prerequisite(s):

Graduate standing or permission of the instructor.

This course provides advanced knowledge regarding the effect of the various classes of materials on tissues, cells and molecules, with the emphasis on musculoskeletal tissues. Topics include the effect of particulate matter, controlled release carriers and scaffolds for tissue repair. Emphasis is placed on recent developments in tissue engineering of bone and cartilage. The course discusses the use of materials science techniques in the study of tissue-engineered constructs. Data in the literature related to the subject matter will be extensively discussed and the students will write two articles on selected topics.

640. (CAMB703) The Extracellular Matrix. (J) Prerequisite(s): BIOM 600.

Graduate students only.

This course is geared towards first and second year graduate students in BGS/CAMB and SEAS/BE with an interest in the interface of extracellular matrix (ECM) cell biology and biomechanics. Students will learn about the ECM and adhesion receptors and their impact on the cytoskeleton and signaling, as well as fundamental concepts in biomechanics and engineered materials. We will discuss how these topics can inform the study of cell biology, physiology and disease. An additional objective of the course is to give

students experience in leading critical discussions and writing manuscript reviews. Invited outside speakers will complement the strengths of the Penn faculty.

645. Biological Elasticity. (M)

Prerequisite(s): BE 510 or equivalent.

Large deformation mechanics of biological materials. Nonlinear elasticity theory, strain energy functions, constitutive laws of hyperelastic and viscoelastic biological materials. Applications to heart, lung, and arteries.

650. Adv Biomed Imag Applic. (A)

L/R 662. (CBE 618, MEAM662)

Advanced Molecular Thermodynamics. (C) Prerequisite(s): Graduate Standing or permission of the instructor.

Review of classical thermodynamics. Prediction of thermodynamic functions from molecular properties. Concepts in applied statistical mechanics. Modern theories of liquid mixtures.

SM 699. Bioengineering Seminar. (C)

700. Special Topics in Bioengineering. (M)

The research areas discussed will be those of the participating BE faculty who will direct the discussions and present background material. The purpose of the course is to present current research being done in the bioengineering Graduate Group and study relevant literature. The grade will be based on class participation and a final paper or presentation. Course content and staffing varies from year to year.

799. Research Rotation. (C)

Prerequisite(s): PhD Students only.

For students who are fulfilling the Bioengineering research rotation requirements

895. (BIOM895) Methods in Bioengineering Education. (M) PHD students only.

This course provides training in the practical aspects of teaching. The students will attend seminars emphasizing basic pedagogical skills. Depending on the course setting for the practicum portion, student will obtain hands-on experience developing and delivering lectures, leading recitations, developing and supervising instructional laboratories, preparing and grading homework, grading laboratory reports, and preparing and grading examinations. Practicum experiences will be supervised by a faculty mentor.

Students will meet during the practicum portion of the course to discuss difficult situations encountered in the classroom/laboratory and to constructively review each other. Final evaluations will be based on mentor, peer, and student feedback.

899. Independent Study. (C) Graduate Students Only.

The purpose of BE 899 is to allow a student to create a customized curriculum to study material beyond or outside the scope of our standard BE course offerings. Rather than a research or design project, BE 899 is a

one-on-one or small-group course with a professor. Students must submit a proposal outlining the study area along with the professor's approval. A paper or presentation is required.

990. Masters Thesis. (C)

For Master's students who have completed the course requirements for the Master's degree and are strictly working to complete the Master's Thesis leading to the completion of a Master's degree. Permission Required.

995. Doctoral Dissertation Status. (C)

Prerequisite(s): For Ph.D. Candidates only.

Ph.D. Students register for Doctoral Dissertation Status after they have advanced to Ph.D. candidacy by completing the Candidacy Exam which consists of the Dissertation Proposal Defense.. Permission required

999. Thesis/Dissertation Research. (C)

For students working on an advanced research program leading to the completion of master's thesis or Ph.D. dissertation requirements.

BIOLOGICAL BASIS OF BEHAVIOR (AS) {BIBB}

SM 050. Forensic Neuroscience. Langleben.

Progress in behavioral neuroscience and brain imaging techniques, such as functional and structural Magnetic Resonance Imaging (MRI) and Positron Emission Tomography (PET) has forced the courts to reconsider the role of behavioral sciences in courtroom decision-making. The goal of this course is to enable students understand and interpret the use of behavioral neuroscience evidence in the justice system. The course will introduce the students to the relevant behavioral neuroscience constructs, principles of brain imaging and rules of scientific evidence. Students will be asked to use this introductory knowledge to critically evaluate the use of brain imaging and other behavioral neuroscience techniques as evidence in representative legal cases. For each case, students will serve as neuroscience experts for the defense or prosecution and prepare, present and defend their testimony against the opposing team. Through this course, students will develop the ability to critically evaluate brain imaging and other neuroscience data in forensic and legal settings.

SM 060. Music and the Brain. Kaplan.

Every human culture that has ever been described makes some form of music. The musics of different cultures cover a wide range of styles, but also display fascinating similarities, and a number of features are shared by even the most disparate musical traditions. Within our own culture, music is inescapable—there are very few individuals who do not listen to some form of music every day and far more who listen to music virtually all day long. Appreciation of music comes very early: newborns prefer music to normal speech and mothers all over the world sing to their babies in a fundamentally similar way. And yet, despite this seeming ubiquity, the real origin and purpose of music remains unknown. Music is obviously related to language, but how? Why do so many cultures make music in such fundamentally similar ways? What goes into the formation of music "taste" and preferences? Does music have survival value, or is it merely "auditory cheesecake", a superfluous byproduct of evolution as some critics have maintained? What is the nature

of musical ability and how do musicians differ from non-musicians?

In this course, we will look for answers by looking at the brain. Almost 200 years of scientific research into brain mechanisms underlying the production and appreciation of music is beginning to shed light on these and other questions. Although the sciences and the arts are often seen as entirely separate or even in opposition, studying the brain is actually telling us a lot about music, and studying music is telling us just as much about the brain.

L/L 109. (BIOL109, PSYC109) Introduction to Brain and Behavior.

(C) Living World Sector. All classes. Kane and McLean. Lab Fee is \$75.00.

Introduction to the structure and function of the vertebrate nervous system. We begin with the cellular basis of neuronal activities, then discuss the physiological bases of motor control, sensory systems, motivated behaviors, and higher mental processes. This course is intended for students interested in the neurobiology of behavior, ranging from animal behaviors to clinical disorders.

150. (ANTH104, GSWS103) Sex and Human Nature. (B) Living World Sector.

All classes. Schurr.

This is an introduction to the scientific study of sex in humans. Within an evolutionary framework, the course examines genetic, physiological, ecological, social and behavioral aspects of sex in humans. After providing the basic principles of evolutionary biology, the course will examine the development of sexual anatomy and physiology. How is sex determined? How is orgasm achieved? Why do girls and boys develop sexually at different ages? The role of ecology and social life in shaping human mating patterns will be evaluated through the use of ethnographies and cross-cultural materials on a variety of human cultures. Does everybody have sex the way we do? Why marry? Are there biological bases for love? Why do we experience jealousy? Finally, topics relevant to human sexuality today will be discussed, such as recreational sex, contraception, and sexually transmitted diseases. Examples are drawn primarily from traditional and modern human societies; data from studies of nonhuman primates are also considered.

160. ABCS EVERYDAY NEUROSCIENCE. Lori Flanagan-Cato. Prerequisite(s): BIBB109.

This course is an opportunity for undergraduates to share their interest and

enthusiasm for neuroscience with students in grades 9-12 attending urban public schools in West Philadelphia. The course will allow Penn students to develop their science communication and teaching skills. Students will prepare neuroscience demonstrations, hands-on activities, and assessment tools. In parallel, the course aims to engage local high school students, increasing their interest and knowledge in science, and ultimately promoting lifelong science literacy.

L/R 217. (PSYC217, VLST217) Visual Neuroscience. (B) Rust. Prerequisite(s): BIBB 109, PSYC 001, COGS 001 or VLST 101.

An introduction to the scientific study of vision, with an emphasis on the biological substrate and its relation to behavior. Topics will typically include physiological optics, transduction of light, visual thresholds, anatomy and physiology of the visual pathways, retinal processing, properties of visual cortex, and color vision.

227. (PSYC127) Physiology of Motivated Behaviors. (C) Grill.

This course focuses on evaluating the experiments that have sought to establish links between brain structure (the activity of specific brain circuits) and behavioral function (the control of particular motivated and emotional behaviors). Students are exposed to concepts from regulatory physiology, systems neuroscience, pharmacology, and endocrinology and read textbooks as well as original source materials. The course focuses on the following behaviors: feeding, sex, fear, anxiety, the appetite for salt, and food aversion. The course also considers the neurochemical control of responses with an eye towards evaluating the development of drug treatments for: obesity, anorexia/cachexia, vomiting, sexual dysfunction, anxiety disorders, and depression.

231. (BIOL231, PSYC231) Animal Behavior. (C) Seyfarth/Cheney. Prerequisite(s): PSYC 001 or BIOL 102 or BIOL 122.

The evolution of social behavior in animals, with special emphasis on group formation, cooperation among kin, mating systems, territoriality and communication.

233. Neuroethology. (C) Judith McLean. Prerequisite(s): BIBB 109.

In course, students will learn how neurobiologists study the relationship between neural circuitry and behavior. Behaviors such as bat echolocation,

birdsong, insect olfaction, spatial navigation, eye movement and others will be used to explore fundamental principles of brain function that include brain oscillations, population codes, efference copy, sensorimotor maps and sleep replay. The course will also discuss the various methodologies that are used to address these questions. The reading material will be derived mostly from the primary literature.

240. Human Chronobiology and Sleep. (M) Dinges. Prerequisite(s):

BIBB109. Students may not receive credit for both BIBB240 and BIBB040.

Topics to be covered include basic principles of chronobiology; neuroscience mechanisms of circadian rhythms and sleep; phylogeny and ontogeny of sleep; human sleep and sleep disorders; circadian dysfunction; circadian and sleep homeostatic influences in human health and safety.

247. (PSYC247) Neuroscience and Society. (C) Farah. Prerequisite(s): BIBB 109 or BIBB 249.

Cognitive, social, and affective neuroscience have made tremendous progress in the last two decades. As this progress continues, neuroscience is becoming increasingly relevant to all of the real-world endeavors that require understanding, predicting and changing human behavior. In this course we will examine the ways in which neuroscience is being applied in law, criminal justice, national defense, education, economics, business, and other sectors of society. For each application area we will briefly review those aspects of neuroscience that are most relevant, and then study the application in more detail.

L/R 249. (PSYC149) Cognitive Neuroscience. (C) Epstein.

Prerequisite(s): PSYC 001 or BIBB 109.

The study of the neuronal systems that underlie human perception, memory and language; and of the pathological syndromes that result from damage to these systems.

L/L 251. (BIOL251) Molecular and Cellular Neurobiology. (A) Schmidt, M./Abel/Peachey. Prerequisite(s): BIOL 101 and 102, or BIOL 121; PHYS 102 or 151 strongly recommended. Lab fee \$150. (3hrs. lec., 3hrs. lab, 1.5 c.u.).

Cellular physiology of neurons and excitable cells; molecular neurobiology and development. Topics include: action potential generation; synaptic transmission; molecular and physiological studies of ion

channels; second messengers; simple neural circuits; synaptic plasticity; learning and memory; and neural development.

260. (PSYC139, PSYC239) Neuroendocrinology. (C) Flanagan-Cato. Prerequisite(s): BIBB 109 or

Permission of Instructor.

This course is designed to examine the various roles played by the nervous and endocrine systems in controlling both physiological processes and behavior. First, the course will build a foundation in the concepts of neural and endocrine system function. Then, we will discuss how these mechanisms form the biological underpinnings of various behaviors and their relevant physiological correlates. We will focus on sexual and parental behaviors, stress, metabolism, neuroendocrine-immune interactions, and mental health.

269. Autonomic Physiology. (B) Heerding. Prerequisite(s): BIBB 109.

This course will introduce the student to the functioning of the autonomic nervous system (ANS), which is critically involved in the maintenance of body homeostasis through regulation of behavior and physiology. The course will begin with a review of the basic anatomy and physiology of the ANS including the sympathetic, parasympathetic and enteric divisions. The mechanisms by which the ANS regulates peripheral tissues will be discussed, including reflex and regulatory functions, as will the effect of drugs which modulate ANS activity. The role of the ANS in regulating behavior will be addressed in the context of thirst, salt appetite and food intake.

270. (PSYC225) Drugs, Brain and Mind. (A) Kane. Prerequisite(s): BIBB 109 or PSYC 109.

The course will begin with a review of basic concepts in pharmacology including: routes of drug administration, drug metabolism, the dose response curve, tolerance and sensitization. Following a brief overview of cellular foundations of neuropharmacology (neuronal biology, synaptic and receptor function), the course will focus on several neurotransmitter systems and the molecular and behavioral mechanisms mediating the mind-altering, additive and neuropsychiatric disorders, including depression, schizophrenia an anxiety, with an emphasis on their underlying neurobiological causes, as well as the pharmacological approaches for treatment.

271. (ANTH207) Primate Behavior Ecology. (C) Fernandez-Duque.

Prerequisite(s): ANTH 003.

This is a seminar that discusses methodological aspects of conducting field research on non-human primates. After discussions of issues related to the planning and design of field studies, and the proper training in necessary field techniques, students will conduct research on non-human primates. We will then discuss data management and analysis.

310. Laboratory in the Structure of the Nervous System. (C) McLean.

Prerequisite(s): BIBB 109 Permission of Instructor. Lab Fee: \$50.

A laboratory course designed to familiarize the student with the fundamental gross and histological organization of the brain. The mammalian brain will be dissected and its microscopic anatomy examined using standard slide sets. Comparative brain material will be introduced, where appropriate, to demonstrate basic structural-functional correlations.

331. Neuroscience of Emotions. (c) D. Leitman. Prerequisite(s): BIBB109.

This course will provide an overview of past and current theories of emotion and the neurobiological systems that underpin them. Topics will include how we perceive, express, and experience emotions and the role of emotion in motivated thoughts, actions, and experiences. Special attention will be paid to social aspects of emotion. The course will highlight the role that evolution, neurodevelopment, and clinical observation play in our understanding of emotional processes.

350. Developmental Neurobiology. (C) McGurk. Prerequisite(s): BIBB 109 and BIOL 101 or Permission of Instructor.

This course will focus on cellular and molecular mechanisms of the organogenesis of the central nervous system. A goal of the course will be to understand the form, function and pathology of the adult nervous system in terms of antecedent developmental processes.

399. Independent Research. (C) Standing Faculty. Prerequisite(s): BIBB 109 and Permission of the Director.

Individual research of an experimental nature with a member of the standing faculty leading to a written paper. The grade is based primarily on a serious term paper describing original research carried out by the student. Students must submit a proposal prior to registering. During the semester, students must attend two

seminars to discuss planning and independent research project, ethical concerns in research and writing a scientific paper. Attendance at the meetings is mandatory. Students doing more than one credit of independent study will be required to present a poster at the annual BBB Symposium.

409. CLINICAL RES. IN NEURO. (C)

SM 417. (PSYC417) Seminar in Perception: Visual Processing. (C)

Rust. Prerequisite(s): BBB 109, Psych 149 or Psych 217, or permission of instructor.

This seminar will focus on how visual information is processed by the eye and the brain to produce visual perception. These issues will be explored through lectures and student presentations of journal articles, combined with Matlab- based tutorials and exercises. The course requires no prior knowledge of visual processing, math, or computer programming.

SM 420. Smell and Taste. (M)

Breslin/Teeter. Prerequisite(s): Introductory Psychology and Biology, BBB 109. PSYC 111 (Perception) preferred.

All organisms respond to chemicals in their environment. This chemosensation guides diverse behaviors such as a feeding, avoiding predators, sex, and social interactions. This course will provide a broad survey of our current understanding of taste and smell, focusing on insect and rodent model systems as well as studies in humans. The course will begin with a review of chemical signal transduction mechanisms, and build to an exploration of the cortical integration of chemical signals and chemical guided behaviors. Class time will emphasize primary literature, discussion, and student presentations. The goal is to reach an integrated understanding of the physiology and psychology of chemical sensory systems. In the process, students will learn to read and critically evaluate data from primary research articles.

SM 421. Functional Imaging of the Human Brain. (B) Newberg.

Prerequisite(s): BIBB 109.

The course will provide a detailed overview of functional brain imaging and it's potential uses. Issues regarding advantages and disadvantages of different modalities, study design image analysis & interpretation and how these relate to varies neurological & psychological phenomena will be discussed. Class will cover the following specific topics in this general time frame: Introduction to functional brain function, basics of nuclear medicine

imaging (including instrumentation, image acquisition, and radiopharmaceuticals for positron emission tomography and single photon emission computed tomography), imaging of neurological disorders, imaging of psychological disorders, introduction to activation studies, image analysis and statistical problems, study design, literature review, journal article presentation, tour of Penn imaging facilities, interpretation of imaging studies, implications for clinical and research, and implications for understand the human mind and consciousness.

430. Neurobiological Basis of Autism. (C) Staff. Prerequisite(s): BIBB 109.

This course examines the neurobiological processes underlying autism spectrum disorders. In this seminar course, we will first examine the brain phenotypes associated with Autism Spectrum Disorders (ASD). in addition to investigating the genetic and environmental contributions to the etiology and pathophysiology of ASD. After an initial examination of the clinical literature and research, we will focus on animal models of ASD, including those of syndromic causes of autism (Rett Syndrome, Tuberous Sclerosis, Fragile X) and investigate changes in neurotransmitter systems and synaptic dysfunctions in the brain of these models.

442. (BIOL442) Neurobiology of Learning and Memory. Abel.

Prerequisite(s): BIOL 251, BIBB 251 or Permission of Instructor.

This course focuses on the current state of our knowledge about the neurobiological basis of learning and memory. A combination of lectures and student seminars will explore the molecular and cellular basis of learning in invertebrates and vertebrates from a behavioral and neural perspective.

SM 451. (PSYC407) Behavioral Genetics. (K) (c) Price. Prerequisite(s): BBB 109, Basic statistics or Permission of Instructor.

This course covers basic principles of human and animal behavioral genetics, including normal variation and extreme phenotypes represented by behavioral, psychiatric and neurologic disorders. The course will focus on methods necessary to critically evaluate research findings on normal and abnormal human behavior. Animal models will also be reviewed. The first third of the class is in lecture format and reviews basic genetic methodologies as they apply to behavior. The remainder of the class is in seminar format and covers

recently published work related to behavioral genetics.

SM 460. (PSYC439) Neuroendocrinology Seminar. (C)

Flangan-Cato. Prerequisite(s): BIBB 109 or Permission of Instructor.

This course is an upper-level seminar, designed to examine the various roles played by the nervous and endocrine systems in controlling both physiological processes and behavior. We will focus on sexual and parental behaviors, stress, metabolism, neuroendocrine-immune interactions, and mental health. The format will be a mixture of lectures and journal club discussions based on recent primary literature in the field of neuroendocrinology. Students will also write several short papers based on the clinical neuroendocrinology.

SM 462. MUSIC AND THE BRAIN.

SM 469. Stress Neuroscience.

Heerdig/Grafe. Prerequisite(s): BIBB 109.

Stress can be caused by a variety of conditions, ranging from low-level noise in the workplace to life-threatening situations and these stressors can cause changes in the physiology and behavior of individuals. This course will examine the neural mechanisms underlying physiological and emotional responses to stress in a journal club format. Topics to be covered include anxiety disorders, depression and other mood disorders, the differential effects of stress on males and females, the physiological effects of stress on the immune system and feeding behavior, the effects of maternal stress on offspring as well as strategies to mitigate the effects of stress.

SM 473. (NGG 706, PSYC473) Neuroeconomics. Kable.

Prerequisite(s): PSYC 149, 253, or 265.

This course will review recent research that combines psychological, economic and neuroscientific approaches to study human and animal decision-making. A particular focus will be on how evidence about the neural processes associated with choices might be used to constrain economic and psychological theories of decision-making. Topics covered will include decisions involving risk and uncertainty, reinforcement learning, strategic interactions and games, and social preferences.

SM 475. Neurodegenerative Diseases. (M) Lexow. Prerequisite(s): BIBB 109 or Permission of Instructor.

This course will familiarize students with advances in our understanding of the clinical features and pathogenesis of a wide range of neurodegenerative diseases, including Alzheimer's disease and other dementias, prion diseases, Parkinson's disease and atypical parkinsonisms, neurodegenerative ataxias, motoneuron diseases, degenerative diseases with chorea, iron and copper disorders, and mitochondrial diseases. Students will analyze original research reports on a range of proposed pathological cellular processes that may represent steps in cell death pathways leading to neuron loss seen in these diseases. Significant emphasis will be placed on the fast-expanding field exploring genetic contributions to neurodegenerative disease, as identification of genetic mutations pathogenic for familial neurodegenerative diseases has been a major driving force in neurodegenerative research and pointed researchers towards essential molecular process that may underlie these disorders. Strategies for therapeutic intervention in the management, prevention, and cure of neurodegenerative disease will be addressed.

479. (BIOL451, PSYC479) Neural Systems and Behavior. (M) Schmidt, M./Medina. Prerequisite(s): BIOL 251/BIBB 251 and permission of instructor.

This course will investigate neural processing at the systems level. Principles of how brains encode information will be explored in both sensory (e.g. visual, auditory, olfactory, etc.) and motor systems. Neural encoding strategies will be discussed in relation to the specific behavioral needs of the animal. Examples will be drawn from a variety of different model systems.

SM 480. Biological Basis of Psychiatric Disorders. (C) Lexow. Prerequisite(s): BIBB 109 or Permission of Instructor.

The contributions of basic sciences (neuroanatomy, neurophysiology, neurochemistry, and neuropharmacology)

to an understanding of behavior and behavioral disorders will be covered and important psychiatric disorders will be discussed, primarily from the viewpoint of their biological aspects. Emphasis will be placed on critical evaluation of research strategies and hypotheses.

SM 481. Behavioral Pharmacology. (A) Heerding. Prerequisite(s): BIBB 109.

This seminar course reviews the behavioral effects of drugs in animals, the general biological and psychological principles of drug action, and the relationship between drugs that affect brain monoamine and opiate systems and their behavioral effects. Introductory lectures on general topics will be followed by advanced discussion of specific topics in a journal club format through student presentations.

SM 482. Clinical Psychopharmacology. (M) Lexow. Prerequisite(s): BIBB 109 or Permission of Instructor.

This course examines the history, rationale and putative mechanism of action of drugs used in the treatment of psychiatric disorders. Emphasis is placed on neurobiological processes underlying psychopathology and pharmacological intervention. Drugs currently in use as well as new drugs in development will be covered. Strategies, techniques, issues and challenges of clinical psychopharmacological research will be addressed and new approaches to drug discovery, including the use of pharmacogenomics and proteomics to understand variability in drug response and identify new molecular drug targets, will be covered in depth. Specific drug classes to be considered include antidepressants, anxiolytics, typical and atypical antipsychotics, narcotic analgesics, sedative hypnotics, and antiepileptic medications. A contrasting theme throughout the course will be the use of drugs as probes to identify neural substrates of behavior.

492. Experimental Methods in Synaptic Physiology. (C) Kaplan. Prerequisite(s): BIBB 251. Lab fee \$100.

In this lab course, a small number of students meet once per week to discuss

topics in synaptic physiology and to become proficient at sharp electrode techniques for intracellular recording, using isolated ganglia from the snail *Heliosoma*. The first part of each class will consist of discussion of weekly reading from the primary literature, with the remainder of the class devoted to hands-on experiments. After learning to record from and characterize single neurons, students will study synaptic transmission by stimulating incoming nerve trunks or by recording from pairs of interconnected neurons. As a midterm assignment, students will prepare and present a short research proposal using this model system, to be evaluated by the class. For the last half of the course, the class will work together on one or two of these proposals, meeting at the end of each class to pool our data, analyze the results and discuss their significance.

499. Senior Honors Thesis. (C) Standing Faculty. Prerequisite(s): BIBB 399, Permission of BIBB Director and a GPA of 3.5 or better.

Continuation of BIBB 399 research. Students will be required to give an oral presentation of their research at the annual BBB symposium Honors Seminar.

585. (BE 530, NGG 594, PHYS585, PSYC539) Theoretical and Computational Neuroscience. (M) Balasubramanian.

This course will develop theoretical and computational approaches to structural and functional organization in the brain. The course will cover: (i) the basic biophysics of neural responses, (ii) neural coding and decoding with an emphasis on sensory systems, (iii) approaches to the study of networks of neurons, (iv) models of adaptation, learning and memory, (v) models of decision making, and (vi) ideas that address why the brain is organized the way that it is. The course will be appropriate for advanced undergraduates and beginning graduate students. A knowledge of multi-variable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.

BIOLOGY (AS) {BIOL}

SM 011. Humans in a Microbial World. (M) Living World Sector. All classes. Brisson. May not be counted toward the Biology major or minor.

Microbes are a fundamental part of life on this planet. This course will explore the causes and consequences of the distribution and abundance of microbes (microbial ecology) as well as microbial evolution on human health and disease risk. We will address the interplay between human society and microbial ecology and evolution in shaping disease risk and directing scientific study. This course will apply concepts from basic biology, ecology, and evolution to study infectious microbes as living creatures.

SM 014. Descent with Modification: An introduction to the science of evolution. (H) Living World Sector. All classes. Sniogowski. May not be counted toward the Biology major or minor. General biology background preferred but not required.

Evolution provides the unifying framework for the biological sciences and has been confirmed by a huge and diverse body of evidence. Public opinion polls show, however, that evolution continues to be socially and politically controversial in the United States. In this freshman seminar, we will explore the scientific basis for evolution by reading and discussing historical sources, a current nonspecialist text on evolution, and selected papers and articles from the scientific and popular literature. With our knowledge of evolutionary fact and theory as background, we will also discuss social and political opposition to the teaching of evolution. Grading will be based on participation in class discussions and on performance in several brief writing assignments. There is no course prerequisite, but high school introductory biology would be helpful.

L/R 015. Biology of Human Disease. (B) Living World Sector. All classes. Weinberg. May not be counted toward the Biology major or minor.

Understanding how diseases disrupt the life of human individuals requires an appreciation of the genetic, biochemical, and cellular mechanisms that underlie normal human biology. After providing some of this basic information, in a form accessible to students in the humanities, social sciences and physical sciences, this course will focus on a selective group of human diseases, including inherited

metabolic and neurological disorders, cancer, and viral infections. Presentations by experts in these areas will be followed by sessions discussing various aspects of each disease, including the biological basis of therapies and preventive methods including gene therapy, stem cells, and vaccines. This course is designed for non-majors and is open to both freshmen and upperclassmen.

L/L 017. The Biology of Food. (A) Living World Sector. All classes. Poethig. May not be counted toward the Biology major or minor. Lab fee \$75.

This course will examine the ways in which humans manipulate - and have been manipulated by - the organisms we depend on for food, with particular emphasis on the biological factors that influence this interaction. The first part of the course will cover the biology, genetics, evolution, and breeding of cultivated plants and animals; the second part will concern the ecological, economic, and political factors that influence food production. Lab activities include demonstrations and field trips to local farms.

019. Biological Science and Public Policy. (A) Staff. Prerequisite(s): High school biology recommended. May not be counted toward the Biology major or minor. Only offered through the College of Liberal and Professional Studies.

This course will examine the scientific basis of public policy decision making in areas of human health, the environment, energy, and agriculture. A general understanding of the science involved in these areas - predominantly genetics, cell biology, physiology, and ecology - will be applied to topics such as drug and herbicide resistance, endangered species, regulation of biotechnology, microbial sources of energy, control of toxic substances, and the war against cancer. No formal background in biology or policy is required. The course should be particularly useful for non-science students who would like to gain insight into areas of biology of importance to public decision making and to students of public policy who would like a better background on biological issues.

SM 021. This is Your Genome! - Fascinating Experiments in Heredity. (A) Guild. May not be counted toward the Biology major or minor.

Your genome represents the complete set of genetic instructions that guides your development from a single cell into a living, thinking, and reproducing organism. This course will examine the ideas that led to our current understanding of genomes

with particular emphasis on the molecular biology that revolutionized our concepts of gene and genome structure and function. We will fast-forward through the heredity/chromosome/DNA/gene-structure era and spend some time in the genome-sequencing era of the late 1990s and early 2000s. We will then consider how genome science is revolutionizing our understanding of gene variation, human disease, population biology and evolution. The course will include field trips to the Penn genomic core facilities.

L/L 101. Introduction to Biology A. (C) Living World Sector. All classes. Staff. (3 hrs. lec., 3 hrs. lab, 1.5 c.u.) Biology majors and pre-medical students should take either BIOL 101 or 121. BIOL 101 is the companion course to BIOL 102 and should be taken before BIOL 102. Lab fee \$150.

General principles of biology focusing on the basic chemistry of life, cell biology, molecular biology, and genetics in all types of living organisms. Particular emphasis will be given to links between the fundamental processes covered and current challenges of humankind in the areas of energy, food, and health.

L/L 102. Introduction to Biology B. (C) Living World Sector. All classes. Staff. (3 hrs. lec., 3 hrs. lab, 1.5 c.u.) BIOL 102 is the companion course to BIOL 101 and should be taken after BIOL 101. Lab fee \$150.

General principles of biology focusing on structure and function of animals, with emphasis on the principles of physiology, development, evolution, ecology, and the diversity of adaptations.

L/L 109. (BIBB109, PSYC109) Introduction to Brain and Behavior. (C) Living World Sector. All classes. Kane and McLean. Lab fee \$75.

Introduction to the structure and function of the vertebrate nervous system. We begin with the cellular basis of neuronal activities, then discuss the physiological basis of motor control, sensory systems, motivated behaviors, and higher mental processes. This course is intended for students interested in the neurobiology of behavior, ranging from animal behaviors to clinical disorders.

L/R 121. Introduction to Biology - The Molecular Biology of Life. (A) Living World Sector. All classes. Staff.

Prerequisite(s): Solid high school biology and strong high school chemistry or CHEM 101. Corequisite(s): BIOL 123 is recommended. Biology majors and pre-medical students should take either BIOL 101 or 121. BIOL 121 is the companion course to BIOL 124 and may be taken before or after BIOL 124.

An intensive introductory lecture course covering the cell, molecular biology, biochemistry, and the genetics of animals, bacteria, and viruses. This course is comparable to Biology 101, but places greater emphasis on molecular mechanisms and experimental approaches. Particular attention is given to the ways in which modern cell biological and molecular genetic methods contribute to our understanding of evolutionary processes, the mechanistic basis of human disease, and recent biotechnological innovations. Students are encouraged to take BIOL 121 and 123 concurrently.

L/L 123. Introductory Molecular Biology Laboratory. (C) Hogan.

Corequisite(s): BIOL 121 or credit by exam for BIOL 101 or 121. (1 hr. lec., 3 hrs. lab, 0.5 c.u.) Students may not take both BIOL 101 and 123 for credit. Lab fee \$150.

An intensive introductory laboratory course emphasizing how molecular biology has revolutionized our understanding of cell and organism functions. BIOL 121 and 123 should be taken concurrently.

L/L 124. Introductory Organismal Biology Lab. (C) Robinson.

Prerequisite(s): Solid high school biology or credit by exam for BIOL 102. (1 hr. lec., 3 hrs. lab, 0.5 c.u.) BIOL 124 is the companion course to BIOL 121 and may be taken before or after BIOL 121. Students may not take both BIOL 102 and 124 for credit. Lab fee \$150.

An intensive introductory laboratory course in organismal biology.

140. (BIOL440) Humans and the Environment. (A) Natural Science & Mathematics Sector. Class of 2010 and beyond. Janzen. Prerequisite(s):

Sophomore standing or greater. Some biology background suggested.

Intensive exposure to current issues and solutions in contemporary human interactions with the environment. Global in scope, but focused on case histories. Emphasis on providing biological and sociological background for a given major environment-human interaction, and state-of-the-art suggested solutions.

199. Clinical & Translational Research. (C)

Independent study for students doing research based on data that is generated in a clinical setting. Projects must be sponsored by standing faculty of the University of Pennsylvania and co-sponsored by a faculty member in the Department of Biology. The project must be of biological interest and must use appropriate quantitative or statistical methods. A final paper is required. Apply at the Academic Office, 102 Leidy Labs.

L/R 201. Essentials of Cell Biology. (C) Staff. Prerequisite(s): BIOL 101 and 102 or BIOL 121/123 or equivalent courses.

An intermediate level exploration of cell structure and function including membrane structure, intracellular organelles, membrane trafficking, surface receptors and signal transduction, the cytoskeleton, cell motility and communication, and the cell cycle. This course is open to students in the College of Liberal and Professional Studies only.

L/R 203. Essentials of Biochemistry. (C) Staff. Prerequisite(s): BIOL 101 and 102 or BIOL 121, and CHEM 241, the latter of which may be taken concurrently. CHEM 242 is recommended and may also be taken concurrently.

Intermediate level course covering principles of modern biochemistry. Topics include protein structure, protein purification and characterization, proteomics, enzyme kinetics and mechanisms, membrane structure and function, metabolism, and cellular energy transduction. Emphasis will be on biochemical problem solving, experimental design, and application of quantitative methods in a biological and clinical context. This course is open to students in the College of Liberal and Professional Studies only.

L/R 204. Biochemistry. (B) Rea.

Prerequisite(s): BIOL 101 and 102 or BIOL 121, and CHEM 241, the latter of which may be taken concurrently. CHEM 242 is recommended and may also be taken concurrently.

BIOL 204 examines the basic principles of protein structure, protein purification and characterization, proteomics, enzyme kinetics and mechanism, membrane structure and function, metabolism, and cellular energy transduction. The primary objective is to provide life scientists with an appreciation of basic principles of modern biochemistry, and of how the current conceptual and technical framework

arose. Emphasis is placed on the experimental approaches and reasoning behind the dissection and reconstitution of these processes in a biological and, in some cases, clinical context. Discussions directed at biochemical problem solving, experimental design and the application of quantitative methods are integral to the course.

L/R 205. Cell Biology. (A) Guo and Svitkina. Prerequisite(s): BIOL 101 and 102, or BIOL 121.

A conceptual view of cell structure and function including membrane structure, intracellular organelles, membrane trafficking, surface receptors and signal transduction, the cytoskeleton, cell motility and communication, and the cell cycle. Cell biology is a dynamic field and recent research discoveries will be included in the lectures.

L/R 211. Essentials of Molecular Biology and Genetics. (C) Staff.

Prerequisite(s): BIOL 101 and 102 or BIOL 121/123 or equivalent courses.

This course will survey the discipline of molecular genetics. Mendelian and molecular genetics will be discussed as well as the use of genetic analysis to address questions in all areas of biology. The processes of DNA replication, transcription, and translation will be discussed at the molecular level. Other topics include the regulation of gene expression and genomics. This course is open to students in the College of Liberal and Professional Studies only.

L/R 213. Essentials of Vertebrate Physiology. (C) Staff. Prerequisite(s): BIOL 101 and 102 or BIOL 121/123 and 124 or equivalent courses.

BIOL 101 and 102 or BIOL 121/123 and 124 or equivalent courses.

A comparative and quantitative approach to the physiological function of vertebrates. Topics include muscles, nervous system, cardiovascular system, respiration, and renal function. This course is open to students in the College of Liberal and Professional Studies only.

L/R 215. Vertebrate Physiology. (C) Rome/Ren/Dunham. Prerequisite(s): BIOL 102 or 121 or 124.

The course will focus on integrative aspects of physiological function of vertebrates. Comparative, environmental and quantitative approaches will be used. Major topics include muscle, the cardiovascular system, respiration, renal function and the nervous system.

L/R 221. (BIOL527, GCB 527) Molecular Biology and Genetics. (C)

Bonini/Gallagher/Guild. Prerequisite(s): BIOL 101 or 121.

This course will survey the discipline of molecular genetics. Two broad areas will be considered 1) Molecular Biology: DNA replication, transcription, translation, regulation of gene expression in both prokaryotic and eukaryotic systems, and genomics and 2) Genetics: basic Mendelian & molecular genetics.

L/R 230. Evolutionary Biology. (B)

Schmidt, P. Prerequisite(s): BIOL 101 and 102, or BIOL 121.

Theories and mechanisms of evolution, with emphasis on the genetic basis of evolutionary change.

231. (BIBB231, PSYC231) The Evolution of Animal Behavior. (M)

Cheney/Seyfarth. Prerequisite(s): BIOL 102 or 121 or PSYC 001.

The evolution of social behavior in animals, with special emphasis on group formation, cooperation among kin, mating systems, territoriality and communication.

240. Ecology: From individuals to ecosystems. (A)

Helliker/Akcay.

Prerequisite(s): BIOL 102 or 121.

The study of living organisms in their natural environment, spanning the ecological physiology of individuals, the structure of populations, and interactions among species, including the organization of communities and ecosystem function.

L/L 251. (BIBB251) Molecular and Cellular Neurobiology. (A)

Schmidt, M./Abel/Kaplan. Prerequisite(s): BIOL 101 and 102, or BIOL 121; PHYS 102 or 151 strongly recommended. (3hrs. lec., 3hrs. lab, 1.5 c.u.). Lab fee \$150.

Cellular physiology of neurons and excitable cells, molecular neurobiology and development. Topics include: action potential generation, synaptic transmission, molecular and physiological studies of ion channels, second messengers, simple neural circuits, synaptic plasticity, learning and memory, and neural development.

L/L 275. Fundamental Microbiology. (C)

Staff. Prerequisite(s): BIOL 101 or 121, BIOL 211 or 221 or equivalent strongly recommended. Combined lecture and lab course. Lab fee \$150.

Microbiology plays a central role in diverse areas of human life such as infectious disease, ecology, and biotechnology. This course will cover aspects of modern microbiology with an emphasis on

prokaryotic organisms. The topics will include basic aspects of microbial diversity, genetics, and pathogenesis as well as examples of applied microbiology. This course is open to students in the College of Liberal and Professional Studies only.

304. Infectious Disease Biology. (B)

Staff. Prerequisite(s): BIOL 221, 275, and 404, the later of which may be taken concurrently.

This course focuses on selected topics concerning infectious agents, the diseases they cause in humans, and the social and scientific challenges they pose. The first section addresses the principles of epidemiology and microbial pathogenesis, as well as pathophysiology of infectious diseases. In the second section, tools and techniques of diagnosis, tracking, and control of infectious diseases will be discussed. To develop a broad understanding of the many different aspects of infectious processes, selected viral, fungal, protozoan, and helminthic pathogens and related infectious diseases will be presented. This course is open to students in the College of Liberal and Professional Studies only.

L/L 306. Histology. (C)

Prerequisite(s): BIOL 101 and 102 or BIOL 121, and BIOL 201, 202, or 205 preferred. Lab fee \$150.

This course is designed to introduce the undergraduate student to the structure of tissues at the cellular level and to the way in which those tissues are assembled into organs. This knowledge of structure will be the basis for discussion of tissue and organ function. This course is open to students in the College of Liberal and Professional Studies only.

330. Comparative Vertebrate Anatomy and Evolution. (B)

Dunham.

Prerequisite(s): BIOL 102 or 121.

This course will survey the phylogeny and anatomy of vertebrate organisms from a comparative evolutionary perspective. The lecture will concentrate on the history, diversity, structure and function of vertebrates. A companion lab course, BIOL 336, is available for those students interested in a more complete understanding of vertebrate anatomy.

336. Comparative Vertebrate Anatomy Lab. (B)

Dunham.

Prerequisite(s): BIOL 330 previously or concurrently is required. (3 hrs lab., 0.5 c.u.). Lab fee \$150.

Laboratory portion of BIOL 330 Comparative Vertebrate Anatomy and Evolution. Students will learn comparative anatomy through dissection of

representative vertebrates. Students taking the lab must have credit or register for the lecture course, BIOL 330.

L/R 354. Developmental Biology. (A)

Wagner J. Prerequisite(s): BIOL 202 or 205 and 221.

A view of how an animal embryo is specified to develop and differentiate into a wide spectrum of cell types, and how the spatial patterns and axes of embryos are determined. The course will focus on genetic and molecular approaches, but will also cover the comparative anatomy of developing embryos to the extent necessary to understand the conserved aspects of embryonic patterning. Special emphasis will be placed on organisms with particular advantages for the study of embryonic development: e.g., mouse, frog, zebrafish, and *Drosophila*. The first half of the course will cover cell fate restrictions, cloning animals using nuclear transfer, stem cell biology, formation of the embryonic axes in vertebrates and *Drosophila*, and patterning of the neural tube and mesodermal tissues. The second half of the course will focus on emerging ideas and findings in the field, with emphasis on analysis of original literature.

375. (BIOL575) Microbial Diversity and Pathogenesis. (B)

Pohlschroder.

Prerequisite(s): BIOL 101 and 102 or BIOL 121, BIOL 221.

Microbiology plays a central role in diverse areas of human life such as infectious disease, ecology, and biotechnology. This course will cover aspects of modern microbiology with an emphasis on prokaryotic organisms. The topics will include basic aspects of microbial diversity, genetics, virology, and pathogenesis as well as examples of applied microbiology.

376. (BIOL576) Microbial Diversity and Pathogenesis Lab. (B)

Pohlschroder and Hogan. Prerequisite(s): BIOL 375 previously or concurrently is recommended but not required. (6 hrs lab., 1.0 c.u.). Lab fee \$150.

The importance of microbiology in complex issues, such as the impact of the microbiome in human health or as alternative energy sources, is being appreciated more and more each day. This upper level laboratory course provides students with a robust technical skill set while also giving them an opportunity to participate in an authentic research project that may lead to novel discoveries. Students will generate research questions, formulate hypotheses, design experiments, analyze data, and present their research findings to the class. In each project,

students will use the cutting edge approach of metagenomics to evaluate the microbial diversity of their environment via Next Generation Sequencing. Students will also examine the function of microbial species within their communities. Potential projects include the isolation of novel antibiotic producers and the antibiotic they produce, designing and optimizing microbial fuel cells that can be used to generate electricity, or isolating antibiotic resistant bacteria and attempting novel approaches to inhibit or prevent their growth.

399. Independent Study. (C)

Laboratory research with a faculty member in the Department of Biology. Research may also be conducted elsewhere on campus but co-sponsored by a faculty member in Biology. A final paper is required. Apply at the Biology Academic Office, 102 Leidy Labs.

400. Field Botany. (A) Block and Skema. Prerequisite(s): BIOL 101 or 124 or permission of instructor.

Students will learn to identify plants in the field using keys and manuals; lab exercises will also include the use of quantitative techniques for measuring plant populations and characterizing plant communities. Students will learn how to collect and prepare herbarium specimens. Most of the class time will be spent outdoors and two Saturday field trips are required.

404. Immunobiology. (C) Staff. Prerequisite(s): BIOL 201 or 202 or 205 and BIOL 211 or 221.

Early development of microbiology, pathology, and immunobiology; molecular and cellular bases of immune phenomena including: immunity to pathogens, immune diseases, autoimmunity, and hypersensitivity. This course is open to students in the College of Liberal and Professional Studies only.

SM 405. First Line of Defense: The Role of Innate Immunity in Disease. (B) Elliott. Prerequisite(s): BIOL 202 or 205, or permission of instructor, BIOL 221 recommended.

All organisms, from bacteria to humans, rely on innate, non-specific defense systems to protect against infection and mediate damage. Even in organisms that can generate highly specific and efficient adaptive responses, such as humans, defects in innate immune system components can be fatal. In this course, we will examine the cellular and molecular mechanisms of the components of the innate immune system through discussion

of primary literature. We will explore how the innate immune system influences the course of infections and cancer, as well as autoinflammatory disorders that lead to host tissue damage. Though our focus will be on mammalian immunity, we will also explore the evolutionary development of innate immunity through comparison of systems in different organisms.

SM 406. Molecular Mechanisms of Infectious Disease Biology. (B) Roos. Prerequisite(s): BIOL 202 or 205; BIOL 221 recommended.

This course is designed for advanced undergraduates and beginning graduate students with a particular interest in infectious disease biology. Note that this course is not a comprehensive survey of the field and is not appropriate for students seeking a lecture course on disease. The primary objective of this course is to teach students considering a career in the biomedical sciences how to read, discuss, and question research papers effectively. Intensive classroom discussions focus on the experimental methods used, results obtained, interpretation of these results in the context of pathogen interactions with host cells and organisms, and implications for basic research and therapeutic development.

SM 407. Cancer Cell Biology. (B) Keith. Prerequisite(s): BIOL 202 or 205 and 221.

This course will focus on the molecular mechanisms by which fundamental cellular processes are disrupted in the development of cancer.

410. Advanced Evolution. (I) Sniegowski/Plotkin. Prerequisite(s): BIOL 230 or permission of instructor.

Mechanisms of evolution at the genetic and populational levels. Empirical and theoretical approaches to natural selection, population structure, gene flow, and quantitative genetics will be emphasized.

SM 411. Evolutionary Ecology. (B) Linksvayer. Prerequisite(s): BIOL 230 or 231 or 240.

This course will focus on topics at the intersection of evolutionary biology and ecology, including the evolution of cooperation and conflict from genes to societies to ecological communities, life history evolution, and the evolution of interspecific interactions and ecological communities. The course will use a combination of lectures and discussion of readings from the primary literature.

414. Advanced Ecology. (H) Helliker/Akcay. Prerequisite(s): BIOL 240 and one semester of calculus or permission of instructor.

Theoretical and conceptual background of core issues and questions in population, community, and ecosystem ecology. Topics include physiological ecology, demography, the growth and regulation of natural populations, species interactions, and biogeochemical cycling.

415. (ENVS416) Freshwater Ecology. (B) Arscott. Prerequisite(s): BIOL 101 or 121 and one semester of college chemistry.

Survey of the physical, chemical and biological properties of freshwater ecosystems, both riverine and lentic, natural and polluted.

SM 417. Theoretical Population Biology. (B) Akcay. Prerequisite(s): BIOL 230.

Introduction to basic theoretical tools to study the evolutionary and ecological dynamics of populations. Topics to be discussed include: basic population dynamics and population genetics theory, evolutionary game theory/adaptive dynamics, social evolution (kin selection/multilevel selection), life-history evolution, and stochastic models. Other topics may be added based on the specific interests of students in the class.

L/R 421. Molecular Genetics. (A) Weinberg. Prerequisite(s): BIOL 221 or equivalent course.

A detailed analysis of gene structure and expression in both prokaryotic and eukaryotic organisms. Rapid advances in DNA technology and genomics will be emphasized. The application of these advances to the molecular genetic analysis of development, cell function and disease will be discussed.

422. (CAMB422) Human Genetics and Genomics. (K) Tishkoff. Prerequisite(s): BIOL 221.

In this course we will discuss the identification and characterization of genetic diversity in the human genome, the genetic basis of normal variable traits, and the genetic basis of human disease. The study of the human genome increasingly impacts almost every aspect of our society, from medicine to law enforcement to how we view ourselves. The focus of this course will be to apply concepts and methods of genetics and genomic analysis (gene mapping, genome sequencing, epigenetics, gene expression) to better understand the genetic basis of both normal variable traits as well as disease. We will

discuss how to distinguish the evolutionary and demographic forces (i.e. mutation, migration, selection, population size) that influence genotypic and phenotypic variation within and among human populations. We will discuss how genomics and population genetics methodologies are being applied to study modern human origins, analysis of ancient DNA, ancestry, and population history. We will also discuss the implications of these studies for personalized medicine.

425. Biochemistry and Molecular Genetics Superlab. (C) Wagner J. Prerequisite(s): BIOL 202 or 204 or 205 or 221 or an equivalent course is recommended. Lab fee \$150.

Intensive laboratory class where open-ended, interesting biological problems are explored using modern lab techniques. Topics may include protein structure/function studies; genetic screens, genomics and gene expression studies; proteomics and protein purification techniques; and molecular cloning and DNA manipulation. The course emphasizes developing scientific communication and independent research skills. Course topics reflect the interests of individual Biology faculty members. This course is recommended for students considering independent research.

431. (CAMB431) Genome Science and Genomic Medicine. (B) Gregory. Prerequisite(s): BIOL 221; BIOL 421 strongly recommended.

This course will be a focused study of genomes, genomic techniques, and how these approaches are and will be used in diagnosing and treating human disease. Topics will include genome sequencing, analysis of sequences and microarrays, and new techniques including high-throughput sequencing and reverse genetic analysis with a focus on genome-wide mutant collections.

SM 432. (BIBB432, PSYC431) Animal Cognition. (M) Cheney. Prerequisite(s): BIOL 231/BIBB 231/PSYC 231.

This course considers the sorts of knowledge that animals have of their environment, their location in space, and their conspecifics. How do different animal species remember where food is located or find their way home? What is the adaptive significance of recognizing other individuals' social relationships or dominance ranks? The behavior of animals from a variety of different taxa is considered, ranging from invertebrates to apes. Emphasis is placed on animals living under natural conditions, though some

research on learning and memory in captive animals is also discussed.

SM 436. Molecular Physiology. (A) Ren. Prerequisite(s): A year of introductory biology or equivalent.

This course is designed for advanced undergraduate and graduate students who are interested in molecular physiology of sensory signal transduction. The major topics to cover will be signal transduction mechanisms used by membrane ion channels and receptors that detect the sensory stimuli (light, sound, temperature and taste, for example) and transmit the signals to the nervous system. Modern molecular/structural techniques (patch clamp, protein crystallization, molecular genetics, expression cloning and protein purification) will be introduced along with each topic. References will be primary research articles. Students will critically evaluate research discoveries by reading and presenting one to two original research papers. Each student is required to write a 10-page research proposal and to critique proposals written by fellow students.

437. (CIS 536, GCB 536) Introduction to Computational Biology & Biological Modeling. (A) Kim. Prerequisite(s): Intermediate level biology; MATH 104; BIOL 446 or equivalent.

Biology is flooded with data that cannot be understood without computational analysis and modeling. Computational Biology is a subfield of natural science where quantitative approaches are used to discover and understand biological and medical phenomena. The goal of this course is to develop a deep understanding of techniques and concepts used in Computational Biology. The course will strive to focus on a small set of approaches to gain both theoretical and practical understanding of the methods. We will aim to cover practical issues such as programming and the use of programs, as well as theoretical issues such as algorithm design, statistical data analysis, theory of algorithms and statistics. Topics to be discussed include theory of computing, probability theory, multivariate statistics, molecular evolution, and network models. Grading is primarily based on 3 project reports.

438. Systems Biology: Integrative physiology and biomechanics of the muscular system. (B) Rome. Prerequisite(s): 1 year physics, 1 year chemistry, and BIOL 215 or 251.

The course will focus on muscle function from the level of molecules to whole animal locomotion. At each level of

organization, muscle function will be explored from mechanical and energetic viewpoints. The course will include lectures, demonstrations, and several guest expert lectures. Students will also be introduced to realistic musculo-skeletal modelling and forward dynamic simulations to explore integrated function.

440. (BIOL140) Advanced Analysis of Humans and the Environment. (A) Natural Science & Mathematics Sector. Class of 2010 and beyond. Janzen. Prerequisite(s): Permission of instructor.

Advanced version of BIOL 140: Humans and the Environment. Additional readings and course work as directed.

442. (BIBB442, NGG 575, PSYC421) Neurobiology of Learning and Memory. (A) Abel. Prerequisite(s): BIOL 251/BIBB 251 and PSYC 1, or permission of instructor.

This course focuses on the current state of our knowledge about the neurobiological basis of learning and memory. A combination of lectures and student seminars will explore the molecular and cellular basis of learning in invertebrates and vertebrates from a behavioral and neural perspective.

446. Statistics for Biologists. (A) Plotkin. Prerequisite(s): MATH 104 or equivalent; or permission of instructor.

Introductory probability theory. Principles of statistical methods. Problems of estimation and hypothesis testing in biology and related areas.

448. Principles of Drug Action. (A) Manning. Prerequisite(s): BIOL 202 or 205; BIOL 204 is recommended.

Principles of Drug Action covers the concepts of pharmacological sciences as they relate to biochemistry, cell biology, and drug therapy. The intent of the course is to provide a solid grounding in targets of drug action, dose-response relationships, pharmacodynamics, and pharmacokinetics. The grounding is achieved by a discussion of these concepts explicitly and, through selected examples, implicitly. The first part of the course covers each of the concepts. Emphasis is placed on the integration with principles of cell biology and biochemistry. The second part of the course covers selected therapeutic applications. The applications chosen fall within four areas: cardiovascular, brain and behavior, antipyretic and anti-inflammatory, and antimicrobial. They are used to recapitulate important concepts and provide insight into the interplay between pharmacology and human physiology. The

applications and the areas they represent are by no means comprehensive, but students will be able to pursue additional interests through papers.

451. (BIBB479, PSYC479) Neural Systems and Behavior. (B) Schmidt, M./Medina. Prerequisite(s): BIOL 251/BIBB 251 and permission of instructor.

This course will investigate neural processing at the systems level. Principles of how brains encode information will be explored in both sensory (e.g. visual, auditory, olfactory, etc.) and motor systems. Neural encoding strategies will be discussed in relation to the specific behavioral needs of the animal. Examples will be drawn from a variety of different model systems.

466. Molecular Genetics of Neurological Disease. (A) Bonini. Prerequisite(s): BIOL 221 is required; BIOL 251 and BIOL 421 are recommended.

This course will focus on the molecular basis of neurological diseases, exploring in detail key papers that cover topics including defining the disease genes, development of animal models that provide mechanistic insight, and seminal findings that reveal molecular understanding. Diseases covered will include neurological diseases of great focus today such as Alzheimer's, Fragile-X and autism, dementia, motor neuron degeneration, and microsatellite repeat expansion disorders. The course will provide a perspective from initial molecular determination through current status. Students will gain an understanding of how the molecular basis of a disease is discovered (from classical genetics to modern genomics) and how such diseases can be modeled in simple genetic systems for mechanistic insight. The course will be comprised of lectures with detailed analysis of primary literature and in-class activities. Grading will be based on class participation, exams, and written papers.

SM 469. Plant Physiology Through Space and Time. (B) Helliker. Prerequisite(s): BIOL 240 or permission of instructor.

This course is a lab/lecture/seminar hybrid that will meet once per week for three hours. Each session will consist of mini-lecture/lab, paper discussions/lab, or solely lab efforts. We will examine various aspects of photosynthesis, water relations and nutrient acquisition in the context of the evolutionary progression of higher plants. With each subject, we will consider, measure, and in some cases

model whole-plant physiology while examining sub-cellular-level controls and ecosystem-to-global-level consequences. This course is designed to give molecular biologists through earth-system scientists the tools to measure and understand whole-plant physiological responses to molecular manipulation and environmental variability. All students will learn to appreciate the context of their work on both micro and macro scales.

SM 477. The Science and Art of Biotechnology. (A) Roth. Prerequisite(s): Either BIOL 202, 204, 205, or 221 or permission of the department.

Biotechnology transforms basic biological research into pharmaceutical therapies. This course will examine some explanations for American biotechnology vitality by studying case histories in which fundamental, biological observations were subsequently developed, successfully and unsuccessfully, for therapeutic applications. Along the way, we will also seek to understand the interactions among academic research institutions, biotechnology companies, large pharmaceutical companies, the Food and Drug Administration, financial institutions, venture groups, and the Patent and Trademark Office. Classes will be highly interactive. Students will present case histories in a critical fashion. Ultimately, students will conduct mock negotiations focused on university technology transfers, clinical trial design, financing, and intellectual property.

480. (CAMB480) Advanced Cell Biology. (A) Guo. Prerequisite(s): BIOL 202 or 205.

This course is designed for beginning graduate students and advanced undergraduates with a particular enthusiasm for cell biology. Biology 480 does not attempt to cover all aspects of cell biology, and is therefore not appropriate for students seeking a lecture course which provides a comprehensive survey of the field. Rather, the primary objective of this course is to teach those students considering a career in the biomedical sciences how to read, discuss, and question original research papers effectively. Intensive classroom discussions focus on the experimental methods used, results obtained, interpretation of these results in the context of cell structure and function, and implications for further studies.

SM 482. (CAMB482) Cell Signaling. (B) Gallagher. Prerequisite(s): BIOL 202 or 205 or permission of instructor.

The evolution of multicellularity required that cells be able to both send and receive signals from their neighbors. The development of organs and differentiation of cells and tissues requires reliable and continuous communication between cells. Consequences of inappropriate or anomalous signaling include development abnormalities and cancer. This class will examine mechanisms of cell-to-cell signaling between plant and animal cells with an emphasis on the cell biology of development.

483. (CAMB483) Epigenetics. (A) Wagner D. Prerequisite(s): BIOL 221.

This course investigates epigenetic phenomena: heritable alternate states of gene activity that do not result from an alteration in nucleotide composition (mutations). Epigenetic mechanisms regulate genome accessibility and cell differentiation. They play a key role in normal development and in oncogenesis. For example both mammalian X-chromosome inactivation and nuclear transfer (cloning) are subject to epigenetic regulation. Amongst the epigenetic mechanisms we will discuss in this course are chromatin organization, histone modification, DNA methylation and non-coding RNAs. The course is geared toward advanced undergraduate and beginning graduate students and is a combination of lectures, student presentations and research presentations by guest speakers. Students will work with the current scientific literature.

SM 484. Cell Motility and the Cytoskeleton. (A) Svitkina. Prerequisite(s): BIOL 202 or 205.

Cytoskeleton and cell motility plays a crucial role in many aspects of normal and pathological physiology of individual cells, tissues, and whole organisms, including morphogenesis, immune response, wound healing, oncogenesis, and infection. This course will cover current topics in cell biology with emphasis on cytoskeleton and cell motility and their roles in these processes. Lectures, student presentations, and discussions in the class will be based on primary scientific literature.

SM 485. (CAMB485) The RNA World: A functional and computational analysis. (J) Gregory. Prerequisite(s): BIOL 221 required; BIOL 421 strongly recommended.

A focused study of genomic, biochemical, cellular, and molecular aspects of RNA.

Topics of study will include RNA structure, RNA processing and turnover, splicing, ribozymes and riboswitches, RNA editing and modification, RNA interference, endogenous eukaryotic RNA silencing pathways, small RNA biology, computational methodologies for studying RNA biology, and RNA viruses. Lectures, students presentations, and discussions will be based on readings from the primary literature.

SM 486. (CAMB486) Chromosomes and the Cell Cycle. (B) Lampson.

Prerequisite(s): BIOL 202 or 205 or permission of instructor.

Life depends on the propagation of genetic material from one generation to the next through cycles of genome replication and cell division. The genome is copied by the parent, and one exact copy is inherited by each daughter cell. We will treat chromosomes as discrete entities, rather than collections of genes, that are replicated and divided with high fidelity to ensure that the genome remains stable over many generations. By reading selected primary literature covering several decades, we will build an understanding of the cell cycle by focusing on chromosomes and the associated molecular machinery. We will explore mechanisms that underlie replication and division, particularly control mechanisms that maintain genome integrity and are critical to prevent disease. The goal of the course is to develop a picture of the cell cycle by examining some of the key experiments and insights that have led to our current understanding.

488. (CAMB578, NGG 578) Advanced Topics in Behavioral Genetics. (J)

Abel/Bucan. Prerequisite(s): Permission of instructor.

This course focuses on the use of genetic techniques to study the molecular and cellular bases of behavior. Particular emphasis will be given to the role of genetic approaches in understanding the biological processes underlying memory storage, circadian rhythms, and neurological and psychiatric disorders. Reverse genetic approaches utilizing gene knockout and transgenic technologies, as well as forward genetic approaches using mutagenesis and quantitative genetic techniques will be discussed.

SM 493. (CAMB493) Epigenetics of Human Health and Disease. (K)

Berger. Prerequisite(s): BIOL 221 required, BIOL 483 recommended.

Epigenetic alterations encompass heritable, non-genetic changes to chromatin (the polymer of DNA plus histone proteins) that

influence cellular and organismal processes. This course will examine epigenetic mechanisms in directing development from the earliest stages of growth, and in maintaining normal cellular homeostasis during life. We will also explore how diverse epigenetic processes are at the heart of numerous human disease states. We will review topics ranging from an historical perspective of the discovery of epigenetic mechanisms to the use of modern technology and drug development to target epigenetic mechanisms to increase healthy lifespan and combat human disease. The course will involve a combination of didactic lectures, primary scientific literature and research lectures, and student-led presentations.

499. Advanced Independent Study. (C)

Staff. Prerequisite(s): BIOL 399 in the same laboratory as the proposed BIOL 499.

A second semester of independent study, in most cases extending the research undertaken for the BIOL 399. Apply at the Biology Academic Office, 102 Leidy Labs.

SM 522. (CAMB522) Human Evolutionary Genomics. (J)

Tishkoff. Prerequisite(s): Permission of instructor.

Advanced seminar on current topics in human genomics and human evolution. Topics include the methods used for mapping and sequencing genomes; phylogenetic and population genetic analysis; and detecting variation in the human genome. This course is designed for graduate students but advanced undergraduates with a strong background in genetics are also welcome.

L/R 527. (BIOL221, GCB 527) Genetics for Computational Biology. (C)

Bonini/Gallagher/Guild.

Prerequisite(s): BIOL 101 or 121. Permission of instructor required.

This course will survey the discipline of molecular genetics. Two broad areas will be considered: 1) Molecular biology: DNA replication, transcription, translation, and the regulation of gene expression in both prokaryotic and eukaryotic systems and genomics and 2) Genetics: basic Mendelian & molecular genetics.

SM 535. (PHYS535) Topics in Theory of Living Systems. (M)

Kim, Goulian, Akcay, Balasubramanian, Raj, Mossel. Prerequisite(s): Permission of instructor.

The goal of this course is to discuss broad conceptual theories that address complex phenomena of living systems. Example questions include: what is the molecular architecture of information processing in cells and developing organisms? What is

the functional architecture of cooperative organization from molecules in a cell to whole organism social interactions? How is complex multi-factorial information represented in organisms? The course will meet once a week and students will research relevant papers, lead discussions, and generate synopsis of group discussions. At the end of the semester, faculty and students are expected to co-author a review report of the discussed topics.

SM 537. (CIS 635, GCB 537) Advanced Computational Biology. (B)

Barash and Wang. Prerequisite(s): BIOL 437 or permission of instructor.

Discussion of special research topics.

540. (CAMB541) Genetic Analysis. (M)

Poethig. Prerequisite(s): BIOL 221 or permission of instructor.

The logic and methodology of genetic analysis in plants and animals. This lecture course will focus on the use of mutations to study gene function and higher order biological processes, methods for reporting and manipulating gene expression, and analysis of the genetic basis of natural variation.

575. (BIOL375) Microbial Diversity and Pathogenesis. (B)

Pohlschroder. Prerequisite(s): Permission of instructor and BIOL 221 or equivalent.

Advanced version of BIOL 375: Microbial Diversity and Pathogenesis for graduate students only. Additional readings and course work as directed.

576. (BIOL376) Microbial Diversity and Pathogenesis Lab. (B)

Pohlschroder and Hogan. Prerequisite(s): Permission of instructor. BIOL 575 previously or concurrently is recommended but not required.

Advanced version of BIOL 376: Microbial Diversity and Pathogenesis Lab for graduate students only. Additional readings and course work as directed.

586. (MATH586) Topics in Mathematical Biology. (S)

Song. Prerequisite(s): MATH 430 or equivalent is required. MATH 241 and 340 are recommended.

This course will cover various mathematical models and tools that are used to study modern biological problems. The specific emphasis will vary from year to year, but typically will include an introduction to stochastic processes and computational methods that arise in evolutionary biology and population genetics. No prior knowledge of biology is needed to take this course, but a strong

background in probability and familiarity with algorithms and combinatorics will be assumed.

SM 607. Writing for Biologists. (A)

Schmidt, P. Course open to PhD students in Biology only.

The course teaches scientific writing in a workshop format, where students both

produce weekly writing assignments and critique writing submitted by others. Emphasis is placed on simplicity and clarity with the goal of writing effectively to a wide audience beyond the student's immediate research area.

SM 700. Advanced Topics in Current Biological Research. (A) Staff. Course open to PhD students in Biology only.

Integrative seminar on current biological research for first-year PhD students.

BIOMEDICAL GRADUATE STUDIES (MD) {BMP}

501. Economics of Health Care Delivery. (L) Dr. Mark Pauly.

Prerequisite(s): Permission needed from Instructor.

How medical care is produced and financed in private and public sectors, economic models of consumer and producer behavior, applications of economic theory to health care.

503. (PUBH538) Qualitative Methods in Health Research. (L) Drs. Frances Barg and Judy Shea. Prerequisite(s):

Permission needed from Instructor.

The purpose of this course is to expose students to a variety of qualitative approaches/methodologies that may be used in health services/policy research. In didactics we will discuss the pros and cons of a range of qualitative Methods, how the method is actually implemented (with multiple experts presenting approaches), and pair the presentation with a broader discussion in which students compare and contrast health oriented articles in which the method was used. Students will have the opportunity to apply the theoretical approaches to their own research interests with direct input from the faculty and their peers.

504. (NURS612) Principles and Practice of Healthcare Quality Improvement. Jennifer S. Myers and Kathleen G. Burke. Prerequisite(s):

Permission needed from Instructor.

Healthcare delivery is complex and constantly changing. A primary mission of leading healthcare organizations is to advance the quality of patient care by striving to deliver care that is safe, effective, efficient, timely, cost effective, and patient-centered. The goal of this inter professional course is to provide students with a broad overview of the principles and tools of quality improvement and patient safety in health care while also guiding them through the steps of developing a quality improvement project. It will provide a foundation for students or practicing clinicians who are interested in quality improvement and patient safety research, administration, or clinical applications. As part of this course, students will design and plan for a real quality improvement project in their area of interest within healthcare using the methods and tools taught in the course.

550. (EPID550) Clinical Economics and Clinical Decision Making. (B)

Drs. Sankey Williams and Henry Glick. Prerequisite(s): Permission needed from Instructor.

This course focuses on the application of decision analysis and economic analysis of diagnostic tests using two by two tables, likelihood ratios, and ROC curves. The course continues with the introduction of more general tools for decision analysis, including decision trees and other mathematical models. A major focus of the course is the application of economic principles to the evaluation of health outcomes. During seminars, students will carry out practical exercises that include problem solving, critically analyzing published articles, and learning to use computer software that facilitates decision and economic analyses.

580. (EPID580) Outcomes Research. (A) Dr. Jeffrey Silber. Prerequisite(s):

Permission needed from Instructor.

This course is divided into two main parts. The first part addresses issues related to the measurement of quality in healthcare. Included is a review of the classical-structure-process-outcome quality paradigm. The paradigm's strengths and limitations are addressed. This part especially focuses on outcome measures of quality and examines the validity of alternative measures. The second part deals with observational, or quasi-experimental, research studies. It addresses the advantages and limitations of alternative designs, and covers the role of clinical risk adjustment in observational studies of medical interventions. It focuses on the problem of selection bias, and reviews recent methods for dealing with this bias, such as instrumental variables.

SM 600. Introduction to Health Policy and Health Services Research. (E)

Dr. Zachary Meisel. Prerequisite(s): This course is only open to Masters of Science in Health Policy Research Students.

This course will provide students with an introduction to health services and health policy research. First, faculty representing various departments and schools at the University of Pennsylvania will introduce students to a number of "hot topics," including health disparities, medical decision making, neighborhoods and health, quality of care, access to care, behavioral incentives, and cost effectiveness research. Second, the course will offer an introduction to various career paths in the research and policy domains. Third, the course will provide a brief overview of practical issues such as grant

opportunities, data options, publishing, and dissemination.

SM 601. Contextual Foundations of Community Health 1. (L) Dr. Lucy Tuton. Prerequisite(s):

Course only open to Robert Wood Johnson Foundation Clinical Scholars.

In this course, students will be introduced to the social and cultural context of community health, an understanding of which is critical to the successful conduct of community-oriented research. The primary course objective is for students to learn about the dynamic between societal and cultural factors and health outcomes such as quality of life, morbidity and survival, and health disparities. Relying on an asset model approach to learning about communities, the course will (1) incorporate a series of didactic sessions that describe the diversity of the Philadelphia region with respect to cultural, environmental, economic, faith-based, ethical, and political influences on community health in order to (2) prepare the students to conduct a case study focusing on a population and/or issue addressing a diversity of health and social service needs. These course components are intended to assist students in developing the lens through which they will consider research questions leading to successful community oriented research.

611. Implementation Science in Health and Health Care. (B) Drs. Judy Shea and Frances Barg. Prerequisite(s):

Permission needed from Instructor.

In this course, we will highlight a suite of qualitative, quantitative and mixed research methods that address the features of implementation science. The course will include an introduction to the foundational aspects of implementation science, followed by guest speakers who describe their implementation science research. The structure of the course will focus on 3 successive stages-(1) introduction to the foundation/theory of implementation science, (2) exposure to researchers conducting implementation research, and (3) and learning how to critically evaluate and design implementation science studies. An emphasis on specific tools in qualitative and mixed methods approaches is included.

HEALTH POLICY RESEARCH (HPR)

SM 602. Topics in Leadership for Health Policy 1. (L) Drs. Anthony Rostain and Lucy Tuton. Prerequisite(s): Course only open to Robert Wood Johnson Foundation Clinical Scholars.

In this seminar series, students combine didactic sessions reviewing core leadership concepts and skills with reflective discussions on experiences in leadership through their training and community relationships.

603. Health Services and Policy Research Methods I. (A) Drs. Judith Long and Judy Shea. Prerequisite(s): Permission needed from Instructor.

This course will introduce students to commonly used primary data collection methods and provide multiple examples of how they have been used in health services research. Through the course students will define a primary data collection research project and develop the methods necessary to conduct the project. To get the full benefit of this course, students should use this course to develop the methods they plan to employ in their primary data collection project.

604. Introduction to Statistics for Health Policy. (A) Dr. Andrea Troxel. Prerequisite(s): Permission needed from Instructor.

This is the first semester of a two-semester sequence. It is an introductory statistics course covering descriptive statistics, probability, random variables, estimation, hypothesis testing, and confidence intervals for normally distributed and binary data. The second semester stresses regression models.

SM 605. Multidisciplinary Perspectives on Health. Dr. David Rubin. Prerequisite(s): Course only open to Robert Wood Johnson Foundation Clinical Scholars.

In this seminar series, students select topics for in-depth discussion with visiting speakers from a wide range of disciplines. The discussions are led by core Clinical Scholar Program faculty. Each topic involves 5 to 6 sessions with the initial session focusing on critical appraisal of relevant literature.

606. Fundamentals of Health Policy. (A) Dr. David Grande. Prerequisite(s): Permission needed from Instructor.

While academic researchers often think of health policy in terms of research evidence and outcomes, politics and political

processes also play important roles. The purpose of this course is to provide those pursuing careers in health services research and health policy with an understanding of the political context from which U.S. health policy emerges. This understanding is important for researchers who hope to ask and answer questions relevant to health policy and position their findings for policy translation. This understanding is important as well to policy leaders seeking to use evidence to create change. The class provides an overview of the U.S. health care system and then moves on to more comprehensive understanding of politics and government, including the economics of the public sector, the nature of persuasion, and techniques and formats for communication. The course emphasizes reading, discussion and applied policy analysis skills in both written and oral forms. Concepts will be reinforced with case studies, written assignments and a final policy simulation exercise where students will be placed in the position of political advisors and policy researchers.

607. Health Services and Policy Research Methods II. (B) Drs. Andrew J. Epstein and Rachel M. Werner. Prerequisite(s): Permission needed from Instructor.

Empirical research for health care policy frequently involves the analysis of observational data--information that is not primarily collected for research purposes. With the rapid increase in U.S. health information technology capacity, future opportunities for research using these "secondary data" appear promising. The objective of this course is to teach the skills necessary to conduct quality health policy research using secondary data. These skills include formulating research aims and applying appropriate study designs for achieving these aims. The course will also include a survey of the content and structure of several commonly used administrative and public databases available to researchers and workshops to develop the skills to access and manipulate these valuable resources.

608. Applied Regression Analysis for Health Policy Research. (B) Dr. Nandita Mitra. Prerequisite(s): Permission needed from Instructor.

This course deals with the work-horse of quantitative research in health policy research--the single outcome, multiple predictor regression model. Students will learn how to 1) select an appropriate regression model for a given set of research questions/hypotheses, 2) assess how adequately a given model fits a

particular set of observed data, and 3) how to correctly interpret the results from the model fitting procedure. After a brief review of fundamental statistical concepts, we will cover analysis of variance, ordinary least squares, and regression models for categorical outcomes, time to event data, longitudinal and clustered data. We will also introduce the concepts of mediation, interaction, confounding and causal inference.

SM 609. Research in Progress. Drs. David Asch and Judith Long. Prerequisite(s): Course only open to Robert Wood Johnson Foundation Clinical Scholars.

In this seminar series, students present their research protocols to core Clinical Scholar Program faculty. The discussion focuses on the development of a more in-depth understanding of issues to study design, bias, sampling, and analytic approaches as well as the inclusion of alternative perspectives from a wide array of social science disciplines.

610. (PUBH537) Achieving Evidence-Based Health Policy. (B) Dr. Marsha Gerdes, PhD and Sarah Zlotnik, MSW, MSPH.

Achieving Evidence-Based Health Policy examines how research can influence health policy. The course teaches students practical tools for developing communications that effectively leverage policy impact. Sessions will examine: the dialectical relationship between research and policy; how selection of research methods may influence usefulness of results for the policy sphere; the implementation of research findings in real-world settings; the translation of research for a policy audience; and the role of various (the media; foundations; local, state, and federal government; advocates) in both research and policy debates. The instructors will draw on their work in pediatric health services research. The class will feature guest research and policy experts from the public and private sectors, who will explore core concepts using case studies from their expertise in topics like health care reform, immigrant health, mental health, and early childhood home visitation. These didactic topical presentations will be followed by discussions, seminar discussion examining how research findings impacted policy, and writing exercises aimed at honing skills for a policy audience.

799. Independent Study. (D) Faculty.

Prerequisite(s): Permission of Program Director and Faculty Member.

This course is designed to provide the student with an opportunity to gain or enhance knowledge and to explore an area of interest related to health policy research under the guidance of a faculty member.

951. Health Policy Research Thesis I.

Staff. Prerequisite(s): Course only open to Masters of Science in Health Policy Research fellows.

Each student completes a mentored research project that includes a thesis proposal and a thesis committee and results in a publishable scholarly product.

952. Health Policy Research Thesis

II. Staff. Prerequisite(s): Course only open to Masters of Science in Health Policy Research fellows.

Each student completes a mentored research project that includes a thesis proposal and a thesis committee and results in a publishable scholarly product.

BIOMEDICAL GRADUATE STUDIES (MD) {BIOM}

501. Mechanisms of Disease and Therapeutic Interventions. (C) Dr. Mitch Lewis and Dr. Carolyn Cambor. Prerequisite(s): BIOM 600 Cell Biology and Biochemistry.

This is the first offering of a graduate course in cellular pathology analogous to an existing medical course with the same name. The course was designed to complement BIOM 600 Cell Biology. This course will cover basic cellular pathology and the five basic pathological processes that underlie all diseases: cellular responses to injury, tissue response to injury, tissue repair processes, hemodynamic disorders and neoplasia. The course consists of virtual lectures, reading assignments, and one discussion class each week. Sufficient background in immunology and genetics will be provided as it relates to pathological processes.

502. Molecular Basis of Disease I. (B) Dr. Hao Shen and John Lynch.

Prerequisite(s): Permission of course directors. This course is reserved for BGS students only. BIOM 502 introduces students to basic mechanisms of disease and examines ~8 diseases in detail. The specific diseases chosen for discussion may vary year to year. The focus of the course will be on understanding the pathophysiology of the diseases and how research has enhanced not only our knowledge of disease mechanisms but has also led to improved therapy for patients with these diseases. Students will spend 1-2 weeks on each disease. Students will use materials from the medical school curriculum for background information and will use journal articles for class discussion.

SM 510. Case Studies in Translational Research (CSTR). (A)

Drs. Mitch Weiss, Emma Meagher and Skip Brass. This course starts on August 27, 2007. It is held on either Monday or Wednesday from 2 - 3:30 pm.

This course is open to MD/PhD, VMD/PhD and Biomedical Graduate Studies PhD students. All second year combined degree students are expected to take this course unless excused by Dr. Brass. Enrollment

is limited to 24 students but interested VMD/PhD and BGS students are welcome as space permits

CSTR is a seminar style course where groups of students work with selected Penn faculty to prepare a discussion and literature review on disease topics. Topics will include gene therapy for hemophilia, retinal disease and wound healing, cytokine therapies for immune disorders, genetic sleep disturbances and vaccine development. Most of the course will focus on the analysis of successful translational research projects that are taking place here at Penn.

515. Public Health Certificate Program.

555. Regulation of the Genome. (B)

Drs. Zhaolan Zhou and Ben Black. Prerequisite(s): Permission of Instructors. Regulation of gene expression including chromatin structure, transcription, DNA modification, RNA processing, translation, control of gene expression via microRNAs and post-translational processing.

590. INTRO SUMMER SESSION. (L)

599. GTMS Clinical Clerkship.

600. Cell Biology. (A) Dr. Richard Assoian, Director. Dr. Kurt Engleka, Assistant Course Director. Theme Directors: Drs. Mickey Marks, John Weisel, Toshi Hoshi, and Xiaolu Yang. Prerequisite(s): Permission of Instructor.

BIOM 600 is an intermediate level graduate course designed to introduce students to the molecular components and physiological mechanisms that underlie the structure and function of cells. The course is designed as an in-depth survey to cover general concepts central to the field of biochemistry and cell biology and to emphasize these concepts within the context of current scientific research questions and technical approaches. Lectures will focus on recent discoveries in contemporary cell biology involving (i) basic cellular biochemistry; (ii) mechanisms of membrane transport and excitability; (iii) intracellular compartmentalization and protein/vesicle targeting, organelle biogenesis; (iv) cytoskeletal architecture, cell motility and adhesion; and (v) molecular mechanisms of signal transduction. Efforts will be made to familiarize students with recent technical advances in molecular, biochemical, microscopic, spectroscopic, and electrophysiologic techniques.

611. Biological Data Analysis. (B)

Mary Putt, PhD. Prerequisite(s): Students with a strong quantitative background may wish to consult their advisors about the possibility of taking a statistics course with more rigorous mathematical underpinnings.

BIOM 611 is a 1cu introductory course required for 1st year BGS students. The course provides an overview of fundamental concepts in biostatistics. The first half of the course explores fundamental statistical concepts including random variables and probability distributions, sources of variation, experimental design, hypothesis testing and confidence intervals. Both parametric and non-parametric (permutation and rank-based) approaches to inference will be discussed. During the first half of the semester we will introduce the software package R (in Rstudio) and illustrate how to manipulate data in R, explore and graph data, conduct simple tests, create confidence intervals and choose a sample size for a simple two-group comparisons. Approaches to developing reproducible code will be illustrated. During the second half of the course, we will explore analysis of variance, regression modeling and categorical data analysis both in class and in lab. The course emphasizes (1) the understanding of statistics through computational approaches rather than mathematical derivations and formulae and (2) the selection, application and interpretation of basic statistical methods appropriate to data arising from the basic biological sciences.

There will be a lecture on Tuesdays from 11-12:30 pm and labs on Wednesday, Thursday or Friday from 3:30 - 5:00 pm. Students will need to bring their own laptop and will be expected to pick a lab day and stick with that day throughout the semester. Also, there will be an optional review/homework session on Mondays from 3:30 - 5:00 pm. We will carry out activities to help understand fundamental concepts in statistics. Both the lecture and lab will require a laptop with access to the internet. Some of these activities will use INZIGHT, a free R-based software platform out of the University of New Zealand.

799. Independent Study.

895. (BE 895) Methods in BE Education.

995. EXCHANGE SCHOLAR DISS.

BUSINESS ECONOMICS & PUBLIC POLICY
(WH) {BEPP}

201. (BEPP770) Introduction to Business Economics and Public Policy. (C) Katja Seim. Prerequisite(s): None.

This course explores the economics and politics of public policy to provide an analytic framework for considering why, how, and with what success/failure government intervenes in a variety of policy areas. Particular attention will be paid to important policy issues relating to taxation, social security, low-income assistance, health insurance, education (both K-12 and higher ed), the environment, and government deficits. The costs and benefits of alternative policies will be explored along with the distribution of responsibilities between the federal, state and local governments. While the course will focus primarily on U.S. policies, the topics covered (e.g. tax reform, deficits versus austerity, etc.) are currently at the center of the policy debate in many other industrialized countries as well.

203. Business in the Global Political Environment. (C) Santosh Anagol/Robert Jensen. Prerequisite(s): ECON 1 or equivalent.

This course examines the non-market components of business and the broader political, regulatory, and civil context in which companies function. This course addresses how businesses interact with political and regulatory institutions, as well as the general public, with a focus on the global economy. The first portion examines the realities associated with political economy and the actual making of laws and regulations by imperfect politicians and regulators. The second portion analyzes the economic rationale for legislation and regulation in the presence of market failures. The course covers specific market failures and potential solutions including government regulation.

204. (BEPP704) Financing and Managing Government. (B) Staff. Prerequisite(s): BEPP 250, ECON 1 or equivalent.

Given government regulations, cost-benefit evaluations are critical for many private sector activities. This course studies the role of public policy in affecting the efficiency of markets and the distribution of resources in society. The first goal of the course is to survey public expenditure programs and their interaction with

markets. The second goal is to discuss how the public sector raises revenue through taxation to finance these expenditure programs.

206. (BEPP772, REAL206, REAL772, REAL972) Urban Public Policy and Private Economic Development. (C) Gilles Durant. Prerequisite(s): ECON 1.

This course considers a range of local policies in cities and regions. Examples of policies will include clusters and other local development initiatives, large scale regional policies, employment zones and other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.

208. (BEPP708, REAL208, REAL708) Housing Markets. (B) Joseph Gyourko. Prerequisite(s): Managerial Economics (BEPP 250) or equivalent. Lecture with discussion required.

This course is designed for students interested in the economics and operations of housing markets. It is primarily a U.S. focused course, but does include a limited amount of international material for comparative purposes. The class is divided into four sections: (1) supply and demand for housing, including the operations of homebuilders and rental landlords; (2) house prices, including cycles and price dynamics; (3) international comparisons; and (4) public policy analysis applied to a current housing markets-related issue. This course presumes knowledge of intermediate economics, as we will apply that knowledge throughout the semester. For Wharton students, this means you must have passed BEPP 250 (undergrads) or MGEC 611 and MGEC 612 (MBAs). Non-

Wharton students should have taken the equivalent course in the College.

210. (BEPP710) Firms, Markets and Public Policy. (C) Katja Seim. Prerequisite(s): ECON 1.

Many dimensions of firms' strategies, including agreements with suppliers and competitors, mergers and acquisitions, pricing, and technology standards development, among others, are subject to the oversight of regulatory bodies and governmental agencies. This course studies how public policy impacts firms' strategic choices in a host of economic environments. We will analyze pricing strategies including versioning and bundling; product standardization decisions; the management of complementarities between products; the role of network effects and platform competition; and how firms can take advantage of the regulatory environment they operate in when making such decisions. We will study, for example, why Sony won the Blu-Ray format war against the widely supported HD-DVD format; how the FCC plans to incentivize television broadcasters to return spectrum holdings for auction to wireless broadband providers; and how contracts with content providers affect firms' strategic interactions in the e-reader market. To understand how firm strategy and public policy interact, the course will rely on a mix of simple but rigorous analytical models and case studies.

212. (LGST212, PPE 212) Economic Analysis of Law. (C) Martin Asher. Prerequisite(s): ECON 1 or ECON 10.

The course is designed to teach students how to think as an economist about legal rules; to evaluate alternative legal rules against standards of economic efficiency and distributive justice; and to understand the nature of the legal process and several specific areas of the law. With the use of alternative texts, both deductive and inductive reasoning will be employed to study the formation and interpretation of legal rules.

214. Nonprofit Sector: Economic Challenges and Strategic Responses. Ashley Swanson. Prerequisite(s): None.

The nonprofit sector plays a key role in the provision of many goods and services which are fundamental in our society and which may be difficult to provide using market mechanisms alone. Education, health care, charitable services, and the arts are some primary examples of these. Nonprofit organizations operate in service of specific social missions rather than profit

maximization, but in order to serve those missions effectively while ensuring their own survival, they must also make many of the decisions typically associated with private firms. That is, they must compete for funding, human resources, and consumers of their services, they must manage and invest their resources efficiently, and they must innovate new products and services over time. Importantly, the latter requirements may at times come in conflict with the organizations' social values. As a result, nonprofit organizations as economic decision-makers confront a number of unique challenges to their success and growth. The goal of this course is to give students a broad overview of the economic, organizational, and strategic concerns facing the non-profit sector. Our objective is to characterize the unique economic environment, identify effective strategic governance, and management approaches, and explore how appropriate measurement techniques can

can inform the policy treatment of nonprofits. This course is organized around a number of lectures, readings and outside speakers, a midterm exam and a required project.

220. Behavioral Economics, Markets, and Public Policy. Jeremy Tobacman.

Behavioral economics applies insights from psychology to the study of economic phenomena. This course will take the possibility of deviations from rational, self-interested behavior as a starting point, and explore two main questions: How does psychology play out in markets, where sophisticated and unsophisticated consumers and firms interact and compete? And what does behavioral economics imply for public policy? Markets have the potential to protect consumers from their biases, when firms compete to give biased consumers the best deal. In addition, markets allow for the emergence of informational intermediaries that give biased consumers advice. We will examine whether and how this remedy is provided in a diverse array of markets. Behavioral economics also affects what governments should do and what governments actually do, when they address market failures, combat poverty and inequality, and raise revenue. This course therefore also explores "Behavioral Public Finance" -- optimal policy in the presence of biases -- and "Behavioral Political Economy" -- how biases affect the choices of politicians and regulators themselves.

230. (BEPP899, FNCE230, REAL230) Urban Fiscal Policy. (A) Robert Inman. Prerequisite(s): ECON 1, FNCE 101.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.

233. Consumers, Firms and Markets in Developing Countries. (C) Robert Jensen.

Nearly four-fifths of the world's population lives in low income or developing countries. Though currently far behind the U.S., the 15 fastest growing economies/markets in the world are all developing countries. And developing countries already account for 6 of the world's 15 largest economies. This course will examine economic life, including consumers, firms and markets, in low income countries. We will apply both economic theory and empirical analysis for analyzing the roles of both business and government in consumption, production and market equilibria.

236. (BEPP836, REAL236, REAL836) International Housing Comparisons. (B) Susan Wachter. Prerequisite(s): Econ 1 and Econ 2 or Econ 10.

This course focuses on international comparisons of housing finance systems and housing market outcomes. This includes comparative analyses of the financial and economic factors that underlay housing market differences and similarities. Changing housing market institutions and policies in developed and emerging economies are examined. The course also addresses the implications of the integration of global financial markets for national housing markets. International speakers present their views on institutional innovations and the policy setting process in their respective markets. Various approaches to understanding these issues will be used, including readings, written assignments, and group projects.

L/R 250. (BEPP950) Managerial Economics. (C) Staff. Prerequisite(s): ECON 1 or equivalent; MATH 103 or equivalent.

Managerial economics is the application of microeconomic theory to managerial decision-making. Microeconomic theory is a remarkably useful body of ideas for understanding and analyzing the behavior of individuals and firms in a variety of economic settings. The goal of the course is for you to understand this body of theory well enough so that you can effectively analyze managerial (and other) problems in an economic framework. While this is a "tools" course, we will cover many business applications so that you can witness the usefulness of these tools and acquire the skills to use them yourself. We will depart from the usual microeconomic theory course by giving more emphasis to prescription: What should a manager do in order to achieve some objective? That course deliverable is to be compared with description: Why do firms and consumers act the way they do? The latter will still be quite prominent in this course because only by understanding how customers and competitors behave can a manager determine the best strategy. Turning to coverage, the course begins with development of the theory of supply and demand underlying the competitive model. We then turn to monopoly and oligopoly and investigate the development and use of market power such as through price discrimination.

Strategic interaction is explored both in product markets and auctions, the challenges created by asymmetric information - both in the market and within the firm - are investigated.

261. (BEPP761, BEPP961, OIDD261, OIDD761) Risk Analysis and Environmental Management. (M) Howard Kunreuther. Prerequisite(s): ECON 1 helpful.

This course is designed to introduce students to the complexities of making decisions about threats to human health and the environment when people's perceptions of risks and their decision-making processes differ from expert views. Recognizing the limitations of individuals in processing information, the course explores the role of techniques such as decision analysis, cost-benefit analysis, risk assessment and risk perception in structuring risk-management decisions. We will also examine policy tools such as risk communication, incentive systems, third party inspection, insurance and regulation in different problem contexts. The problem contexts for studying the

interactions between analysis, perceptions, and communication will include risk-induced stigmatization of products (e.g. alar, British beef), places (e.g. Love Canal), and technologies (e.g. nuclear power); the siting of noxious facilities, radon, managing catastrophic risks including those from terrorism. A course project will enable students to apply the concepts discussed in the course to a concrete problem.

263. (OIDD263) Environmental & Energy Economics and Policy.

This course examines environmental and energy issues from an economist's perspective. Over the last several decades, energy markets have become some of the most dynamic markets of the world economy, as they experienced a shift from heavy regulation to market-driven incentives. First, we look at scarcity pricing and market power in electricity and gasoline markets. We then study oil and gas markets, with an emphasis on optimal extraction and pricing, and geopolitical risks that investors in hydrocarbon resources face. We then shift gears to the sources of environmental problems (many of which are energy-related), and how policy makers can intervene to solve some of these problems. We talk about the economic rationale for a broad range of possible policies: environmental taxes, subsidies, performance standards and cap-and-trade. In doing so, we discuss fundamental concepts in environmental economics, such as externalities, valuation of the environment and the challenge of designing international agreements. At the end of the course, there will be special attention for the economics and finance of renewable energy and policies to foster its growth. Finally, we discuss the transportation sector, and analyze heavily debated policies such as fuel-economy standards and subsidies for green vehicles.

284. Managerial Economics & Game Theory (formerly BPUB 284). (C)

Joseph Harrington. Prerequisite(s): BEPP 250 or equivalent.

This course introduces students to strategic reasoning through the lens of game theory. The objectives are to learn some game theory and to learn how game theory can inform managerial decision-making. Students will discover how to model a strategic situation as a game and how to solve a variety of games including those with sequential interaction, repeated play, and private information. These game-theoretic tools will be extensively applied to business strategy as we examine investment and entry, pricing (for products

that are durable and have switching costs or network effects), price-matching guarantees, when it is better to follow than lead, managerial incentive contracts, entry deterrence, product location, and two-sided markets. These business strategy issues will be explored in the context of many real-world settings including the markets for cigarettes, cookies, wholesale power generation, video games, supermarkets, and chemicals. Some of the general takeaways from the course are the value of fewer options, commitment, reputation, and signaling. The presentation of most concepts will be complemented with in-class experiments which provide students first-hand experience for the forces at play in strategic situations.

289. (BEPP789) Nations, Politics, and Market. (C) Stephen Golub.

Prerequisite(s): Econ 2 or its equivalent.

This course is intended to deepen understanding of the major contemporary issues in the world economy. The focus is on the "big picture" of global economic developments and the evolution of economic thought over the last one hundred years. The topics include: financial market booms and busts; business cycles; monetary and fiscal policies; inequality; the social welfare state; technological change and economic growth; and international trade and financial arrangements. The time period covers: the Roaring Twenties; the Great Depression, the post war Golden Age (1945-1973); the stagflation of the 1970s; the Washington Consensus era of the market liberalization (1980-2007); and the financial crisis and Great Recession of 2007-2010 and its aftermath. The course also explores different schools of thought. The course will chronicle and compare economic policy and performance of the United States, Europe, Japan and emerging markets (Asia, Latin America, Africa).

299. Independent Study. (C) Staff.

305. (BEPP805, LAW 741) Risk Management. (C) Staff. Prerequisite(s): None.

This course introduces the concepts and techniques available to individuals, corporations, governments, and other organizations in their efforts to manage risk. The course explores how individuals and firms assess and evaluate risk, the tools available to successfully manage risk, and real-world frictions that limit the amount of risk-sharing in the economy. We focus on pure risks that are relevant for individuals and firms, such as mortality and health-related expenses, property damage, product liability, and employee benefits (e.g.

pensions). The course examines a common set of techniques that can be used by individuals and managers in dealing with risk, including risk assumption, prevention, diversification, and transfer via insurance and non-insurance market mechanisms. Our focus is primarily on explaining the products and institutions that we see in the world, which will prepare students for making decisions in their future careers and lives.

322. (BEPP823) Business Insurance and Estate Planning. (C) Victor Hallman. Prerequisite(s): None.

This course presents an analysis of overall private wealth management. This includes planning for disposition of closely-held business interests; the impact of income taxes and other transfer costs on business interests and other assets; integration of life insurance, disability insurance, medical benefits, and long-term care insurance in the financial plan; planning for concentrated asset (e.g. common stock) positions, diversification techniques, and asset allocation strategies; distribution of retirement assets; lifetime giving and estate planning; and analysis of current developments in the creation, conservation, and distribution of estates. Attention also is given to various executive compensation techniques (including restricted stock and stock options) and planning for various employee benefits. The course also covers sophisticated charitable giving techniques and methods for financing education expenses. Reading consist of textbooks, case studies, and bulk pack articles.

451. (BEPP851, STAT451, STAT851) Fundamentals of Actuarial Science. (A) Jean Lemaire. Prerequisite(s): None.

452. (BEPP852, STAT452, STAT852) Fundamentals of Actuarial Science I. (B) Jean Lemaire. Prerequisite(s): One semester of Calculus.

This course is the usual entry point in the actuarial science program. It is required for students who plan to concentrate or minor in actuarial science. It can also be taken by others interested in the mathematics of personal finance and the use of mortality tables. For future actuaries, it provides the necessary knowledge of compound interest and its applications, and basic life contingencies definition to be used throughout their studies. Non-actuaries will be introduced to practical applications of finance mathematics, such as loan amortization and bond pricing, and premium calculation of typical life insurance contracts. Main topics include annuities, loans and bonds; basic principles

of life contingencies and determination of annuity and insurance benefits and premiums.

453. (BEPP853, STAT453, STAT853) Actuarial Statistics. (A) Jean Lemaire. Prerequisite(s): None.

454. (BEPP854, STAT454, STAT854) Applied Statistical Methods for Actuaries. (B) Jean Lemaire. Prerequisite(s): None.

One half of the course is devoted to the study of time series, including ARIMA modeling and forecasting. The other half studies modifications in random variables due to deductibles, co-payments, policy limits, and elements of simulation. This course is a possible entry point into the actuarial science program. No INSR course is a pre-requisite for INSR 854. The Society of Actuaries has approved INSR 854 for VEE credit on the topic of time series.

704. (BEPP204) Financing and Managing Government. (B) Staff. Prerequisite(s): MGEC 611/612 or equivalent.

Given government regulations, cost-benefit evaluations are critical for many private sector activities. This course studies the role of public policy in affecting the efficiency of markets and the distribution of resources in society. The first goal of the course is to survey public expenditure programs and their interaction with markets. The second goal is to discuss how the public sector raises revenue through taxation to finance these expenditure programs.

708. (BEPP208, REAL208, REAL708) Housing Markets. (B) Joseph Gyourko. Prerequisite(s): Microeconomics for Managers (MGEC 611) and Microeconomics for Managers (Advanced) (MGEC 612) or equivalent. Lecture with discussion required.

This course is designed for students interested in the economics and operations of housing markets. It is primarily a U.S. focused course, but does include a limited amount of international material for comparative purposes. The class is divided into four sections: (1) supply and demand for housing, including the operations of homebuilders and rental landlords; (2) house prices, including cycles and price dynamics; (3) international comparisons; and (4) public policy analysis applied to a current housing markets-related issue. This course presumes knowledge of intermediate economics, as we will apply that knowledge throughout the semester. For

Wharton students, this means you must have passed BEPP 250 (undergrads) or MGEC 611/MGEC612 (MBAs). Non-Wharton students should have taken the equivalent course in the College.

710. (BEPP210) Firms, Markets and Public Policy. Katja Seim. Prerequisite(s): None.

Many dimensions of firms' strategies including agreements with suppliers and competitors, mergers and acquisitions, pricing and technology standards development, among others, are subject to the oversight of regulatory bodies and governmental agencies. This course studies how public policy impacts firms' strategic choices in a host of economic environments. We will analyze pricing strategies including versioning and bundling; product standardization decisions; the management of complementarities between products; the role of network effects and platform competition; and how firms can take advantage of the regulatory environment they operate in when making such decisions. We will study, for example, why Sony won the Blu-Ray format war against the widely supported HD-DVD format; how the FCC plans to incentivize television broadcasters to return spectrum holdings for auction to wireless broadband providers; and how contracts with content providers affect firms' strategic interactions in the e-reader market. To understand how firm strategy and public policy interact, the course will rely on a mix of simple but rigorous analytical models and case studies.

761. (BEPP261, BEPP961, OIDD261, OIDD761) Risk Analysis and Environmental Management. (M) Howard Kunreuther. Prerequisite(s): None, but a basic understanding of microeconomics helpful.

This course is designed to introduce students to the role of risk assessment, risk perception and risk management in dealing with uncertain health, safety and environmental risks including the threat of terrorism. It explores the role of decision analysis as well as the use of scenarios for dealing with these problems. The course will evaluate the role of policy tools such as risk communication, economic incentives, insurance, regulation and private-public partnership in developing strategies for managing these risks. A project will enable students to apply the concepts discussed in the course to a concrete problem. Cross-listed with OPIM 761.

763. (OIDD763) ENERGY MARKETS & POLICY.

Over the last several decades, energy markets have become some of the most dynamic markets of the world economy. Traditional fossil fuel and electricity markets have seen a partial shift from heavy regulation to market-driven incentives, while rising environmental concerns have led to a wide array of new regulations and "environmental markets". The growth of renewable energy could be another source of rapid change, but brings with it a whole new set of technological and policy challenges. This changing energy landscape requires quick adaptation from energy companies, but also offers opportunities to turn regulations into new business. The objective of this course is to provide students with the economist's perspective on a broad range of topics that professionals in the energy industry will encounter. Topics include the effect of competition, market power and scarcity on energy prices, the impact of deregulation on electricity and fossil fuel markets, extraction and pricing of oil and gas, uncertainty and geopolitical risk in hydrocarbon investments, the environmental impact and policies related to the energy sector, environmental cap-and-trade markets, energy efficiency, the economics and finance of renewable energy, and recent developments in the transportation sector.

770. (BEPP201) Introduction to Business Economics and Public Policy. (D) Larry Seidman.

Prerequisite(s): A basic understanding of microeconomics.

This course explores the economics and politics of public policy to provide an analytic framework for considering why, how, and with what success/failure government intervenes in a variety of policy areas. Particular attention will be paid to important policy issues relating to taxation, social security, low-income assistance, health insurance, education (both K-12 and higher ed), the environment, and government deficits. The costs and benefits of alternative policies will be explored along with the distribution of responsibilities between the federal, state, and local governments. While the course will focus primarily on U.S. policies, the topics covered (e.g. tax reform, deficits versus austerity, etc.) are currently at the center of the policy debate in many other industrialized countries as well.

772. (BEPP206, REAL206, REAL772, REAL972) Urban Public Policy and Private Economic Development. (B)

Gilles Duranton. Prerequisite(s): Microeconomics.

This course considers a range of local policies in cities and regions. Examples include: clusters and other local development initiatives, large scale regional policies, employment zones and other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.

773. (FNCE730, REAL730) Urban Fiscal Policy. (A) Robert Inman.

Prerequisite(s): Microeconomics, FNCE 601.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.

789. (BEPP289) Nations, Politics, and Markets. (C) Steve Golub.

Prerequisite(s): Microeconomics.

This course is intended to deepen understanding of the major contemporary issues in the world economy. The focus is

on the "big picture" of global economic developments and the evolution of economic thought over the last one hundred years. The topics include: financial market booms and busts; business cycles; monetary and fiscal policies; inequality; the social welfare state; technological change and economic growth; and international trade and financial arrangements. The time period covers: the Roaring Twenties; the Great Depression, the post war Golden Age (1945-1973); the stagflation of the 1970s; the Washington Consensus era of the market liberalization (1980-2007); and the financial crisis and Great Recession of 2007-2010 and its aftermath. The course also explores different schools of thought. The course will chronicle and compare economic policy and performance of the United States, Europe, Japan and emerging markets (Asia, Latin America, Africa).

805. (BEPP305, LAW 741) Risk Management. (C) Staff. Prerequisite(s): None.

This course introduces the concepts and techniques available to individuals, corporations, governments, and other organizations in their efforts to manage risk. The course explores how individuals and firms assess and evaluate risk, the tools available to successfully manage risk, and real-world frictions that limit the amount of risk-sharing in the economy. We focus on pure risks that are relevant for individuals and firms, such as mortality and health-related expenses, property damage, product liability, and employee benefits (e.g. pensions). The course examines a common set of techniques that can be used by individuals and managers in dealing with risk, including risk assumption, prevention, diversification, and transfer via insurance and non-insurance market mechanisms. Our focus is primarily on explaining the products and institutions that we see in the world, which will prepare students for making decisions in their future careers and lives.

811. Risk and Crisis Management. (C) Joan Lamm-Tennant. Prerequisite(s): None.

The growing connectivity of global economies and financial markets has produced widespread risk contagion, resulting in increased volatility and an ever-increasing demand for risk capital. This course focuses on understanding the drivers of risk contagion and ways to restore confidence in worldwide markets for pure and financial risk. The class begins with an evaluation of recent financial and pure risk events: for example, the sovereign debt crisis, Japanese earthquake, and BP

Deepwater Horizon. We explore how these events are being financed in innovative ways via the capital and insurance markets. Next we emphasize the role of risk management in the preservation and creation of value, helping firms identify, measure, monitor and manage/finance risk. Doing so results in risk-adjusted returns (or return on risk-adjusted capital) that exceed the cost of capital. We devote substantial focus on the practical implementation of effective risk management/financing, given evolving regulatory and governance standards. In addition, we explore opportunities for corporate growth as well as public/private partnerships. The course will conclude with a discussion of emerging markets and the role of risk management in developing a middle class needing new forms of risk transfer/financing.

812. Markets for Pure Risk. (C) Joan Lamm Tennant. Prerequisite(s): Basic microeconomics and finance.

The increased frequency and severity of pure risk events hinders corporations' abilities to execute strategy and deliver sustainable financial results to stakeholders. Prominent recent examples include disruptions from Hurricane Katrina, Japan's earthquake/nuclear disaster/supply chain breakdowns, Thai floods, U.S. wildfires, and global terrorist attacks. At the same time, both industrialized and emerging economies understand that the management and financing of pure risk is critical to the success of their economies. Consequently, the rising demand for risk capital has ushered in several capital market innovations and public/private partnerships necessary for managing and financing pure risk. This course investigates these issues, beginning with an introduction to pure risks, their centers of gravity and global consequences for corporations, consumers, and the macroeconomics. Next we move on to traditional sources of risk capital provided to corporations and governments via insurance and reinsurance mechanisms. The course concludes with a discussion of new sources of risk capital provided by capital markets including catastrophic risk bonds, securitization of mortality and liability risk, and other forms of insurance-linked securities.

Our focus is on the supply of risk capital to corporations and economies, recognizing the unique position of emerging economies in this nexus. Throughout, the class emphasizes current real-world cases to illustrate the competitive differences in strategies taken by hedge funds, private equity pools, and insurers, as they address the increasing

need for risk capital around the world. This course complements BEPP 811, Risk and Crisis Management, which focuses on how firms can use various types of hedging instruments to manage pure risks (that is BEPP811's emphasis is primarily on the demand side of markets for pure risks whereas BEPP 812 examines the supply side of these markets). However, BEPP 811 is not required as a prerequisite. Format: Lecture and discussion, midterm and final.

823. (BEPP322) Business Insurance and Estate Planning. (C) Victor Hallman. Prerequisite(s): None.

This course presents an analysis of overall private wealth management. This includes planning for disposition of closely-held business interests; the impact of income taxes and other transfer costs on business interests and other assets; integration of life insurance, disability insurance, medical benefits, and long-term care insurance in the financial plan; planning for concentrated asset (e.g., common stock) positions, diversification techniques, and asset allocation strategies; distribution of retirement assets; lifetime giving and estate planning; and analysis of current developments in the creation, conservation, and distribution of estates. Attention also is given to various executive compensation techniques (including restricted stock and stock options) and planning for various employee benefits. The course also covers sophisticated charitable giving techniques and methods for financing education expenses. Readings consist of textbook, case studies, and bulk pack articles.

This course should be attractive to most students to help them plan for their own or their families' financial affairs. It also should be particularly attractive to students specializing in entrepreneurship, wealth management finance, and law.

836. (BEPP236, REAL236, REAL836) International Housing Comparisons.

Prerequisite(s): MGEC 611: Microeconomics for Managers.

This course focuses on international comparisons of housing finance systems and housing market outcomes. This includes comparative analyses of the economic factors that underlay housing market differences and similarities. Changing housing market institutions and policies in previously socialist economies and newly emerging countries are examined. The course also addresses integration of global financial markets for national housing markets. International speakers present their views on institutional innovations and the policy setting process

in their respective markets. Various approaches to understanding these issues will be used, including readings, written assignments, and group projects.

851. (BEPP451, STAT451, STAT851) Fund of Act Sci I (formerly INSR 851). (A) Prerequisite(s): One semester of Calculus.

852. (BEPP452, STAT452, STAT852) Fund of Actuarial Sci II (formerly INSR 852). (B) Prerequisite(s): STAT 851 OR BEPP 851.

This specialized course is usually only taken by Wharton students who plan to concentrate in actuarial science and Penn students who plan to minor in actuarial science mathematics. It provides a comprehensive analysis of advanced life contingencies problems such as reserving, multiple life functions, multiple decrement theory with application to the valuation of pension plans.

853. (BEPP453, STAT453, STAT853) Actuarial Statistics (formerly INSR 853). (A) Lemaire. Prerequisite(s): Two semesters of Statistics.

This course covers models for insurer's losses, and applications of Markov chains. Poisson processes, including extensions such as non-homogenous, compound, and mixed Poisson processes are studied in detail. The compound model is then used to establish the distribution of losses. An extensive section on Markov chains provides the theory to forecast future states of the process, as well as numerous applications of Markov chains to insurance, finance and genetics. The course is abundantly illustrated by examples from the insurance and finance literature. While most of the students taking the course are future actuaries, other students interested in applications of statistics may discover in class many fascinating applications of stochastic processes and Markov chains.

854. (BEPP454, STAT454, STAT854) Appl Stat Methd For Actu (formerly INSR 854). (B) Prerequisite(s): One semester of Probability.

One half of the course is devoted to the study of time series, including ARIMA modeling and forecasting. The other half studies modifications in random variables due to deductibles, co-payments, policy limits, and elements of simulation. This course is a possibly entry point into the actuarial science program. No INSR course is a pre-requisite for INSR 854. The Society of Actuaries has approved INSR 854 for VEE credit on the topic of time series.

895. (HCMG895) GLOBAL BUSINESS WEEK.

SM 900. Research Seminar. (F) Jeremy Tobacman. Prerequisite(s): None. Permission of instructor required.

Of the many ways that doctoral students typically learn how to do research, two that are important are watching others give seminar presentations (as in Applied Economics Seminars) and presenting one's own research. The BEPP 900 course provides a venue for the latter. Wharton doctoral students enrolled in this course present applied economics research. Presentations both of papers assigned for other classes and of research leading toward a dissertation are appropriate in BEPP 900. This course aims to help students further develop a hands-on understanding of the research process. All doctoral students with applied microeconomic interests are encouraged to attend and present. Second and third year Applied Economic Ph.D. students are required to enroll in BEPP 900 and receive one-semester credit per year of participation.

904. (OIDD904) EXPERIMENTAL ECONOMICS. (M)

This course will help prepare you to run your own economics laboratory and field experiments. Experimental methods have been widely adopted by economists to develop new insights, and some economic theories and hypotheses are uniquely well-suited for testing with experimental tools and data. Achieving high internal and external validity requires careful experimental design. Substantive areas of application in the course will include market equilibrium, asset bubbles, learning in games, public good provision, and labor market relationships. Additional topics may include biases in individual decision-making; field experiments in development economics; and happiness, neuroeconomics, and behavioral/experimental welfare economics. Economists' typical interests in strategic and market-based interactions raise particular methodological challenges and opportunities.

911. Empirical Public Policy. (B)

Ulrich Doraszelski. Prerequisite(s): A graduate-level statistics or econometrics course.

This course examines econometric research on a variety of topics related to public policy, with the goal of preparing students to undertake academic-caliber research. The course is not an econometrics or statistics course per se; rather, it focuses on

research designs with observational data and how econometric techniques are applied in practice. The course aims to train students to do applied economic research that involves measuring effects of theoretical or practical interest. It proceeds in two major parts. The first part examines endogeneity and inference about causal relationships, instrumental variables methods and critiques, and panel data methods. The second part of the course addresses 'structural' econometric modeling. Topics covered in this part include sorting and selection, entry models, and counterfactual analyses of policy changes. The course proceeds by analyzing, in detail, approximately 24 well-known empirical research papers in applied economics or related fields. These include public economics and tax policy, labor economics, law and economics, health care policy, industrial organization and competition, transportation demand and policy, and others.

931. Numerical Methods in Economics. (C) Ulrich Doraszelski.
Prerequisite(s): None.

The objective of this course is to introduce graduate students to computational approaches for solving economic models. We will formulate economic problems in computationally tractable form and use techniques from numerical analysis to solve them. Examples of computational techniques in the current economics literature as well as discuss areas where these techniques may be useful in future research will be disclosed. We will pay particular attention to methods for solving dynamic optimization problems and computing equilibria of games. The substantive applications will cover a wide range of problems including industrial organization, game theory, macroeconomics, finance, and econometrics.

932. Contract Theory and Applications. (B) Daniel Gottlieb.
Prerequisite(s): None.

The course provides an advanced introduction to the theory of contracts and its mixture of foundational theories and applications to fields such as labor, reguindustrial organization.

933. Public Economics: Social Insurance and Government Expenditures. Staff. Prerequisite(s): None.

The first part of this course will examine the rationale for and economic impact (e.g. on saving, labor supply, etc.) of social insurance programs such as social security, unemployment insurance and disability

insurance. The next major part of the course will explore these same issues for government interventions in health insurance markets. The course will then cover research on public goods, externalities, fiscal federalism, and economic stimulus (including the government's recent response to the "Great Recession") before proceeding to an exploration of the government's role in K-12 and high education. Both theoretical and empirical evidence will be covered along with a mix of classic studies and more cutting-edge research. Throughout the course we will discuss the tradoffs - for example between the protection and distortion of social insurance programs -- that influence government's optional role. While the focus will be on evidence from the U.S., some research from other industrialized and developing countries will also be covered.

934. Economics of Risk and Time. (A) Daniel Gottlieb. Prerequisite(s): Economics (Basic).

This course deals with the economic theory of supply, demand, and equilibrium in savings and insurance markets, including social insurance. We will review decision models under conditions of risk and use these to address problems of optimal insurance, moral hazard and adverse selection, social security, and contract enforcement.

941. Development Economics. (C) Shing-yi Wang/Robert Jensen.

This course will cover current microeconomic issues of developing countries including poverty, risk, savings, human capital, and institutions. We will also explore the causes and consequences of market failures that are common in many developing countries with a focus on credit, land, and labor markets. The course is designed to introduce recent research with focus on empirical methods and testing theories with data.

951. Political Economy. (A) Staff.Inman. Prerequisite(s): PHD course with advanced microeconomics.

This course will introduce the students to the basic models of formal political economy and methods for empirically estimating those models from policy data, both for the developed and developing economies. Topics to be covered will include Downsian electoral competition and median voter politics, theories of legislative politics including minimum winning coalition and universalistic (pork-barrel) politics, models of lobbying and political corruption, models of executive influence in legislative settings. Particular

attention is paid to the role of formal (constitutional) and informal (non-constitutional) institutions as they determine policy outcomes in democratic societies, including majoritarian (first-past-the-post) and proportional representation systems of elections, partisan (party) and non-partisan (special interest) legislatures, executive agenda-setting and veto powers, federal and unitary forms of governance, and finally, the role of judicial review. Policy applications will focus on fiscal policy (taxes, spending, and debt), though students should feel free to apply the analysis to other public policies of interest. Students should have a firm understanding of micro-economic theory and applied econometrics.

961. (BEPP261, BEPP761, OIDD261, OIDD761) Risk Analysis and Environmental Management. (M) Howard Kunreuther. Prerequisite(s): None, but microeconomics helpful.

This course is designed to introduce students to the role of risk assessment, risk perception and risk management in dealing with uncertain health, safety and environmental risks including the threat of terrorism. It explores the role of decision analysis as well as the use of scenarios for dealing with these problems. The course will evaluate the role of policy tools such as risk communication, economic incentives, insurance, regulation and private-public partnerships in developing strategies for managing these risks A project will enable students to apply the concepts discussed in the course to a concrete problem.

SM 962. (REAL962) Applied Economics Seminar. (F) Fernando Ferreira. Prerequisite(s): None.

The goal of this course is to help doctoral students develop critical thinking skills through both seminar participation and writing of referee reports. To this end students will attend the Wharton Applied Economics each Wednesday at noon seminar when it meets; prepare two written referee reports on WAE papers per semester, due before the seminar is presented; after attending the seminar - and the ensuing discussion of the paper - students will prepare follow-up evaluations of their referee report reports, due one week after the seminar.

971. Market Design. Eduardo Azevedo.

The course covers Market Design, the analysis and engineering of market rules and institutions. In the last 60 years practitioners and academics have deliberately engineered the rules of an increasing number of markets, with classic

examples including medical resident matching (e.g., NRMP), spectrum auctions (e.g., FCC auctions), and organ donation exchanges. In the last few years, very large markets have been created from scratch, such as eBay, Adwords, and smaller markets like odesk.com and sittercity.com. These designs use a broad set of tools, including economic theory, empirical analysis and experiments (and a fair dose of trial-and-error). With this experience, useful principles have emerged, on what market failures typically have to be addressed, and on which rules work and which do not.

987. Industrial Organization and Competition Policy. (C) J.F. Houde.

Prerequisite(s): Doctoral level economics (e.g. ECON 701, 703 or ECON 680, 682).

This course focuses on empirical methods and applications of research topics in Industrial Organization. Although not exclusively, the course will focus mostly on the application of econometric techniques used to study specific markets and antitrust policies. The topics that will be covered include the evaluation of market power and mergers, product differentiation,

investment and innovation, collusion, price discrimination, vertical relations, entry and product positioning, and the dynamics of industries. The course will also discuss research methodologies related to microeconomic theory, computational methods, and econometric analysis. The applicability of the techniques goes beyond the field of Industrial Organization, and include the Labor, Health, Trade and Public economics.

611. Microeconomics for Managers: Foundations. (C) Staff.

This course establishes the micro-economic foundations for understanding business decision-making. The course will cover consumer theory and market demand under full information (2 lectures), production theory and economic (and opportunity) cost (2 lectures), pricing strategies in competitive and monopoly markets (2 lectures), sophisticated pricing strategies with segmented markets using price discrimination and bundling (2 lectures), sophisticated pricing strategies of a single consumer using two-part tariffs (1 lecture), and decision-making under uncertainty (1 lecture). Students are expected to have

mastered these materials before enrolling in the second quarter course: Microeconomics for Managers: Advanced Applications.

612. Microeconomics for Managers: Advanced Applications. (C) Staff.

MICROECONOMICS FOR MANAGERS: ADVANCED APPLICATIONS. This course will cover the economic foundations of business strategy and decision-making in market environments with less than full information. Topics include game theoretic approach to market strategies with application to market creation and protection (4 lectures), auction theory and application (1 lecture), strategies for managing risk including the value of information (1 lecture), moral hazard and principle-agent theory with application to incentive contracts (1 lecture), asymmetric information and signaling strategies (1 lecture), public goods and externalities within and between firms (1 lecture), and the management of interdependencies through cooperative behavior or politics (1 lecture).

099. INDEPENDENT RDGS.

CELL AND MOLECULAR BIOLOGY (MD) {CAMB}

422. (BIOL422) Genomics of Human Disease and Evolution. S. Tishkoff. Prerequisite(s): BIOL 221.

In this course we will discuss the identification and characterization of genetic diversity in the human genome, the genetic basis of normal variable traits, and the genetic basis of human disease. The study of the human genome increasingly impacts almost every aspect of our society, from medicine to law enforcement to how we view ourselves. The focus of this course will be to apply concepts and methods of genetics and genomics analysis (gene mapping, genome sequencing, epigenetics, gene expression) to better understand the genetic basis of both normal variable traits as well as disease for Mendelian (those traits influenced by a single gene) and complex (those traits influenced by multiple genes and environment) traits. We will discuss how to distinguish the evolutionary and demographic forces (i.e. mutation, migration, selection, population size) that influence genotypic and phenotypic variation within and among human populations. We will discuss how genomics and population genetics methodologies are being applied to study modern human origins, analysis of ancient DNA, ancestry, and population history.

We will also discuss the implications of these studies for personalized medicine. An ability to understand human genetic and genomics analyses will serve you well since in your lifetime you are almost certain to be faced with a major decision involving your heredity; and society will be forced to make major reforms in medicine, business, and law because of increasing genomics data. By the end of this class you should have a better understanding of the science behind the study of the human genome.

431. (BIOL431) Genome Sciences and Genomic Medicine. B. Gregory. Prerequisite(s): BIOL 221; BIOL 421 strongly recommended. Graduate students do not need permits or prerequisites as those will have been taken in undergraduate studies.

This course will be a focused study of genomes, genomic techniques, and how these approaches are and will be used in diagnosing and treating human disease. Topics will include genome sequencing, analysis of sequences and microarrays, and

new techniques including high-throughput sequencing and reverse genetic analysis with a focus on genome-wide mutant collections.

480. (BIOL480) Advanced Cell Biology. (A) Wei Guo. Prerequisite(s): College level biochemistry and cell biology.

This course is designed for beginning graduate students and advanced undergraduate students with a particular enthusiasm for Cell Biology. CAMB/BIOL 480 does not attempt to cover all aspects of cell biology, and is therefore not appropriate for students seeking a lecture course that provides a comprehensive survey of the field. Rather, the primary objective of this course is to teach those students considering a career in the biomedical sciences how to read, discuss, and question research papers effectively. Intensive classroom discussions focus on the experimental methods used, results obtained, interpretation of these results in the context of cell structure and function, and implications for further studies. There is no assigned text; students learn to critically evaluate current literature by reading original papers on selected topics in modern cell biology. Accordingly, class participation/discussion is essential and the grade will be determined significantly by that. In addition, there will be two exams including answering short questions and an essay critiquing an original paper that is selected on a topic in Cell Biology.

483. (BIOL483) Epigenetics. (A) Wagner. Prerequisite(s): BIOL 221.

This course investigates epigenetic phenomena: heritable alternate states of gene activity that do not result from alteration in nucleotide composition (mutations). Epigenetic mechanisms regulate genome accessibility and cell differentiation. They play a key role in normal development and in oncogenesis. For example both mammalian X-chromosome inactivation and nuclear transfer (cloning) are subject to epigenetic regulation. Amongst the epigenetic mechanisms we will discuss in this course are chromatin organization, histone modification, DNA methylation and non-coding RNAs. The course is geared toward advanced undergraduate and beginning graduate students and is a combination of lectures, student presentations and research presentations by guest speakers. Students will work with the current scientific literature.

SM 485. (BIOL485) The RNA World: A Functional and Computational Analysis. (B) B. Gregory.

Prerequisite(s): BIOL 221 required. BIOL 421 strongly recommended. Graduate students will have satisfied prerequisites in their undergraduate studies.

A focused study of genomic, biochemical, cellular, and molecular aspects of RNA. Topics of study will include RNA structure, RNA processing and turnover, splicing, ribozymes and riboswitches, RNA editing and modification, RNA interference, endogenous eukaryotic RNA silencing pathways, small RNA biology, computational methodologies for studying RNA biology, and RNA viruses. Lectures, student presentations, and discussions will be based on readings from the primary literature.

SM 486. (BIOL486) Chromosomes and the Cell Cycle. (B) Lampson, M. Prerequisite(s): The course section is limited to PhD students only.

Life depends on the propagation of genetic material from one generation to next through cycles of genome replication and cell division. The genome is copied by the parent, and one exact copy is inherited by each daughter cell. We will treat chromosomes as discrete entities, rather than collections of genes, that are replicated and divided with high fidelity to ensure that the genome remains stable over many generations. By reading selected primary literature covering several decades, we will build an understanding of the cell cycle by focusing on chromosomes and the associated molecular machinery. We will explore mechanisms that underlie replication and division, particularly control mechanisms that maintain genome integrity and are critical to prevent disease. The goal of the course is to develop a picture of the cell cycle by examining some of the key experiments and insights that have led to our current understanding.

There is no textbook for the course. Readings from the primary literature will be assigned for each meeting and provided as pdf files. Presentations of these papers and class participation, including questions and critical evaluation, are an essential part of the course. Grading will be based on a final paper in the form of a research proposal (50%) and on class participation (50%).

SM 493. (BIOL493) EPIGENETICS OF HUMAN HEA. (B)

510. (IMUN510) Immunology. (B) G. Scott Worthen. Prerequisite(s): BIOM 600 or instructor permit. Priority given to students in the MVP & GTV programs of CAMB. Second priority to CAMB students in other programs. If slots remain, then Ph.D. students from other graduate groups by permit only. Ph.D. students only.

The purpose of this course is to provide a thorough grounding in immunology to Cell and Molecular Biology graduate students, with an emphasis on the role of the immune system in combating infectious and neoplastic diseases, and its role in immunopathological states such as autoimmunity and allergy. This is a required course for CAMB students in the Microbiology, Virology and Parasitology program and the Vaccine and Gene Therapy program, replacing IMMU 506 (Immune Mechanisms). It may also be used as an elective by CAMB students in other programs such as those from the Cancer Biology program and Cell Biology and Physiology program.

The course is divided into two parts. The first deals with innate and adaptive immune mechanisms, the structure, function, and molecular biology of antigen receptors and major histocompatibility complex molecules, and the development, activation, and differentiation of lymphocytes and other hematopoietic cells involved in immunity. The second part will cover the immune response in infection by bacteria, viruses, and parasites, and in pathological states such as cancer, allergy, and autoimmunity. The course is comprised of two 1.5-hour lectures per week.

EXAMS: There will be two exams. The first will be taken after part I, and the second after part II of the course. Both will be open book, in-class exams. The exam will consist of essay or brief answer questions based on experimental design and/or data. Each exam is weighed equally in determining the final letter grades of students. The grades are based solely on the exams.

511. Principles of Development. (B) M. Mullins & P. Seale. Prerequisite(s): Previous courses in molecular and cellular biology are recommended. Undergrad background in cell biology and molecular biology required. NON-BGS students require permission from course directors to register.

This graduate course, which will include lectures and readings from the literature, is designed to provide a foundation in the principles of developmental biology. Topics covered will include: the germ line

and piRNA, signaling pathways in development, pattern formation and cell specification, gastrulation, tissue differentiation, morphogenesis, cell polarity, epigenetics in development, organogenesis, stem cell biology, regeneration, and developmental evolution. The use of molecular biology, biochemistry, genomics and genetics, cell biology, and embryological manipulations will be discussed in the context of the analysis of developmental mechanisms.

512. Cancer Biology and Genetics.

(B) Todd Ridky and Yi Fan. Prerequisite(s): BIOM600 or course director permission. Non-CAMB students must contact the course director prior to registration. Students are not permitted to audit this course.

The course objective is to introduce the students to important and current concepts in Cancer Biology and Cancer Genetics. The lectures are organized into 4 broad thematic groups: A) Cell-Autonomous Mechanisms (e.g., tumor suppressor and oncogene function, DNA repair pathways, senescence, apoptosis); B) Non Cell-Autonomous Mechanisms (e.g., tumor microenvironment, hypoxia, angiogenesis); C) Organ Systems (e.g., pancreatic cancer, hematopoietic malignancies); and D) Therapeutic Approaches (e.g. protein kinase inhibitors, immunotherapy, radiation therapy). The organizers, along with faculty from the School of Medicine, the Wistar Institute and CHOP, with expertise in the corresponding areas provide lectures for the course. The students are expected to present, and participate in discussions of one or more key recent papers at Journal Clubs that are held at the end of each thematic group. There will be mid-term and final exams of short essays relevant to the lectures.

SM 518. Current Topics in Ion Channels. (C) Deutsch, C.

Prerequisite(s): Basic knowledge of ion channels, BIOM 600 or equivalent. Corequisite(s): Prerequisite must be confirmed before student can register.

The course is a seminar format, specifically a journal club format, targeted to graduate students and MD/PhD students interested in ion channels. It meets for one hour, once a week for graduate students and once every other week for the entire group with formal presentation. On alternate weeks a faculty member meets with students to discuss and review the contents of each selected article for the subsequent week's presentation. This is an elective course meant to excite and intellectually enlighten students regarding the latest advances in ion channel

research. It includes a wide range of ion channel topics from basic biophysics, structure, and physiology to cell biology and clinical applications. It is attended by faculty, students, and postdocs from the departments of Physiology, Pathology, Neuroscience, Pharmacology, Biochemistry & Biophysics, Psychiatry.

We require a written critique of each paper presented by other participants during the semester, submitted prior to the formal presentation of the paper. This critique will be graded by a faculty member, as will the student's participation in both the preparatory sessions and formal presentation sessions. A final grade would be based on both of these components.

SM 522. (BIOL522) Human Evolutionary Genomics. (J) S.

Tishkoff. Prerequisite(s): Permission of director.

Advanced seminar on current topics in human genomics and human evolution. Topics include the methods used for mapping and sequencing genomes; phylogenetic and population genetic analysis; and detecting variation in the human genome. This course is designed for graduate students but advanced undergraduates with a strong background in genetics are also welcome.

SM 526. (BIOL526) Experimental Principles in Cell and Molecular Biology. (B) K. Gallagher.

Prerequisite(s): This course section is limited to BGS/PhD students only.

The course aims to introduce principles of current experimental techniques used in modern biology.

SM 530. The Cell Cycle, Genome Integrity and Cancer. (A) Brown, Eric

and Busino, Luca. Prerequisite(s): Completion of BIOM 600, BIOM 555 and/or equivalent graduate level course work. Anyone without such course work must obtain instructor permission. Corequisite(s): Preferential registration of Cancer Biology and CAMB students up to the maximum of 12 students applies. Permission to register is required upon exceeding the 12 student limit.

This seminar course focuses on molecular and biochemical events that regulate cell cycle progression and genome maintenance, and explores how these processes influence cancer etiology and treatment. Specific topics will familiarize students with the key principles and recent developments within these areas. These topics include CDK-Cyclins and their inhibitors, regulation of G1-S and G2-M phase cell cycle transitions, DNA damage

checkpoints and repair, the impact of telomere loss and chromatin regulation, and how each of these processes affects cancer etiology and treatment. In depth reading and evaluation of research literature will be primarily used to accomplish these aims, as well as provide instruction on rigorous experimental design and data interpretation.

532. (PHRM532) Human Physiology.

(A) Tejvir Khurana. Prerequisite(s): Although not a formal prerequisite, a good foundation in cell biology at the level of BIOM/CAMB 600 (or an equivalent upper level undergraduate course) is strongly recommended. A general understanding of the chemistry and biochemistry of macromolecules, and of basic molecular biology will also be assumed. This course is primarily designed for 2nd year BGS students; 1st year students in BGS or other programs will require the permission of the instructor. This course is not open to undergraduates. Corequisite(s): Students with out BIOM 600 require the instructors permission.

This course will present a survey of the physiology of most of the major organ systems. It will integrate knowledge of cellular and molecular mechanisms into an understanding of function at the tissue, organ, and organism levels. It will begin with a brief review of membrane physiology, followed by electrophysiology and signaling in nerve. Then, after a brief outline of neural control systems and their role in homeostasis, it will present motility and muscle, the cardiovascular system, respiration, the renal and gastrointestinal systems, and selected topics from the endocrine system, the reproductive systems, environmental and exercise physiology. As well as providing a basis of integrative physiology for students in fields such as physiology, bioengineering and pharmacology, it should be of interest to students of cellular and molecular biology and genetic engineering who will need to appreciate the roles of specific systems and molecules at higher levels of organization.

SM 534. (NGG 534) Seminar on current genetic research: Modeling Human Disease in Diverse Genetic Systems. (B)

T. Jongens. Prerequisite(s): CAMB 605 or CAMB 542 or permission of the instructor. Priority for enrollment will be given to CAMB graduate students. Class not open to Master or undergraduate students.

An advanced seminar course emphasizing genetic research in model organisms and how it informs modern medicine. Each week a student will present background on a specific human disease. This is followed

by an intense discussion by the entire class of ~2 recent papers in which model organisms have been used to address the disease mechanism and/or treatment. As a final assignment, students will have the opportunity to write, edit, and publish a "News & Views" style article in the journal "Disease Models and Mechanisms". Offered spring semester.

541. (BIOL540) Genetic Analysis. (B)

Poethig. Prerequisite(s): A college-level introductory course in genetics / molecular biology.

Genetic analysis involves use of induced mutations and natural variation to study biological processes. This course presents the logic and technology of this approach in four model organisms (*Drosophila*, *C. elegans*, mouse, *Arabidopsis*) and humans.

SM 542. (PHRM542) Topics in

Molecular Medicine. (A) Section 401:

Johnson, Kholi Section 402: Atchison, Mason. Section 402: Open to combined degree and BGS students; capped at 12 students total; non-BGS students must receive permission from course instructors.

TiMM is planned as a once-weekly seminar course whose goal is to introduce students to the ways in which biomedical research can provide new insights into clinical medicine and, conversely, how knowledge of clinical disease impacts scientific discovery. There are two sections for the course -- 401 and 402. Section 401 is for first year MD/PhD students only and section 402 is for VMD/PhD and PhD students.

SM 546. HIV Virology &

Pathogenesis. (J) R. Collman and K. Bar. Prerequisite(s): Strong background in cell biology, immunology or virology fulfilled by 1st yr CAMB (previous BGS courses) or Module 1 of med school curriculum. Course is limited to graduate students. Instructor permission required for non-CAMB graduate students.

This course will introduce students to diverse basic principles that contribute to viral pathogenesis. We will use HIV as a model to illustrate specific elements that relate to disease development, emphasizing a) pathogenesis, b) immunology, c) retroviral replication cycle, and d) vaccine development. Offered spring semester.

One 1.5 to 2 hour class weekly for the course of the semester. The first class will include two 45-minute introductory lectures given by the course instructors. Each week, a student will lead the class in the dissection and discussion of published papers on a specific topic. The format that we will follow will be a 20-minute

introduction presented by the student followed by the analysis of one to two articles, which will be presented by the student and discussed by the class.

547. Fundamental Virology. (A)

Matthew Weitzman. Prerequisite(s): Prior coursework in molecular or cellular biology. First Priority to MVP students, then CAMB students, then GCB students.

The course provides an introduction to virology aimed at graduate students in the biomedical sciences.

548. Bacteriology. (A) Zhu, J; Bushman,

R. Prerequisite(s): none. Priority given to MVP graduate students.

The format of this course will be two lectures and one student presentation/paper discussion per section. The course will begin by introducing molecular mechanisms in bacterial replication, then cover detailed studies of host-bacterial interactions. The course will cover the general concepts and recent advance of how bacterial pathogens prepare to infect the host, the successful strategies bacteria used to infect the host, and how they survive after the infection.

549. Parasites and Parasitism. (A)

Hunter, C. & Lok, J. Permission needed from course director for non-CAMB students.

Parasites infect over one quarter of the world's population and parasitic diseases are a leading cause of death globally. "Parasites and Parasitism" is to be offered to first and second year MVP students over a seven-week block in the fall semester. The course will begin with an introduction to the major protozoan and helminth pathogens of humans, their geographic distribution and the diseases they cause. Subsequent lectures will emphasize a variety of topics from the current research literature using specific parasitic pathogens as examples. These will include how various protozoans enter cells and adapt to different intracellular habitats or how helminths utilize different strategies to survive within the GI tract. Malaria and schistosomiasis will serve as examples for how parasites cause disease while trypanosomes and leishmaniasis will be discussed as models for how parasites survive or evade immune elimination. Finally, several helminth and protozoan systems will be used to demonstrate the intimate association between parasite and vector that leads to efficient transmission. In addition to lectures, weekly discussion sessions will provide an opportunity for students to review papers or research

specific topics and present their findings to their colleagues.

550. Genetic Principles. (B) Sundaram, M. & Grant, S. Open to all PhD students in BGS, priority given to CAMB and GCB students. Students outside of BGS or in non-PhD programs require permission from the course director to register.

This is a required course of the Genetics and Gene Regulation Program and is designed to provide students with a comprehensive overview of genetic concepts and methodology. The course is organized into three parts: I Fundamental genetic concepts; II Genetics of model organisms (with a focus on worms, flies and mice); III Human genetics and disease. Each week there will be two lectures and one associated discussion/problem-solving session. Discussions emphasize practical aspects of generating and interpreting genetic data. Offered spring semester.

578. (BIOL488, NGG 578) Advanced Topics in Behavioral Genetics. (J) Abel/Bucan. Prerequisite(s): Permission of Instructor.

This course focuses on the use of genetic techniques to study the molecular and cellular bases of behavior. Particular emphasis will be given to the role of genetic approaches in understanding the biological processes underlying memory storage, circadian rhythms, and neurological and psychiatric disorders. Reverse genetic approaches utilizing gene knockout and transgenic technologies, as well as forward genetic approaches using mutagenesis and quantitative genetic techniques will be discussed.

597. (NGG 597) Neural Development, Regeneration and Repair. (B) Greg J. Bashaw and Wenqin Luo. Prerequisite(s): Cell 600 or equivalent. Students who are not in one of the BGS graduate programs need instructor permission.

The goals of this course are to examine the principles underlying nervous system development and to learn how understanding developmental mechanisms can inform strategies to promote regeneration and repair. This is not a survey course. Rather, the course will focus on selected topics, for which we discuss the genetic, molecular and cellular strategies employed to study these problems in different model organisms. Emphasis is on how to interpret and critically evaluate experimental data. Each class is 1.5 hours in length. During the first hour, an assigned paper will be discussed in detail. During the last 20-30 minutes, faculty will introduce methods, concepts,

and background information pertinent to the paper that will be discussed at the following meeting.

Fall 2016 Topics: Specification and generation of Neuronal Diversity; Axon and Dendrite Tiling and Self-Avoidance; Axon Guidance at the Midline; Synapse Formation; Wiring the Olfactory System, Axon Regeneration, Somatosensory System Development, Stem Cell Replacement Strategies for Neural Repair.

Textbooks: No specific textbooks are required. The following texts are useful resources. Developmental Biology by Scott Gilbert; Development of the Nervous System by Sanes, Reh, and Harris; and Molecular and Cellular Approaches to Neural Development edited by Cowan, Jessell, and Zipursky.

Format: Each class is 1.5 hours in length. During the first hour, an assigned paper will be discussed in detail. During the last 20-30 minutes, faculty will introduce methods, concepts, and background information pertinent to the paper that will be discussed at the following meeting.

598. Immunology for Cancer Biologists. (A) Sandra Ryeom.

Prerequisite(s): CAMB Students only, priority given to Cancer Biology students.

Themes: The contribution of both adaptive and innate immune cells to tumor progression and metastasis; Mechanisms of immune-mediated edition of tumors; Barriers to tumor immunity that contribute to tumor escape.

Objective of course: To learn and analyze the major aspects of the inter-relationships between the immune system and tumors. By the end of the class students should be able to answer the question: why do current immunotherapeutic approaches for cancer fail in the majority of patients? Based on the topics covered in the course, students should be able to define research avenues that will increase the efficacy of immunotherapies for cancer.

During the course, we will: 1. Interpret how the processes of immune editing, equilibrium and escape influence the development of tumors. 2. Assess the divergent and convergent roles of myeloid and lymphoid cells in supporting tumor cell growth and metastasis. 3. Understand the nature of tumor antigens recognized by innate and adaptive immunity. 4. Learn how tumors co-opt immunosuppressive components of the immune system to prevent their destruction; how tumors influence their microenvironment. 5. Devise experimental approaches to ascertain the role of cellular and molecular

components of the immune system in the progression and control of cancer.

Class format and student evaluation:

The course will consist of didactic lectures and student-led discussions of papers. Students will analyze experimental results from published articles and synthesize the data into current paradigms about tumor immunology. Students will be graded on participation (75%) in discussions in class on a weekly basis and on one formal presentation during the course (25%).

SM 601. Advanced Virology Seminar. (B) P. Bates. Non-CAMB students must obtain instructor approval.

This seminar course covers current topics and important concepts in virology. Students will read selected papers on various topics in virology. Each subject will be illustrated by ground-breaking classic papers and innovative recent articles. Students will present a seminar under the guidance of a faculty member. Grades will be based on the guidance of a faculty member. Grades will be based on the quality of the seminar(s) and participation in discussion.

SM 605. CAMB First Year Seminar. (A) John Seykora. Prerequisite(s): None.

Preference to CAMB students is given. Students outside of CAMB may be accepted space permitting.

Topics are selected by course instructors and student participants. Course instructors vary yearly. The goal of this course is to provide students with an opportunity to analyze, present, and discuss significant research papers in the field of cell and molecular biology in small group settings. The sections are taught by faculty from the different programs within the Graduate Group. This is a required course for CAMB PhD students. Other BGS students are eligible, space permitting.

SM 608. Regulation of Eukaryotic Gene Transcription. (A) Z. Zhou, S. Liebhaber, D. Epstein. Prerequisite(s): BIOM 555 or equivalent

(exception=MD/PhD students). Students are expected to bring their laptops to class. This course is limited to 14 participants. All interested students need permits from course directors before registering.

An advanced seminar course emphasizing the molecular biology and molecular gene expression in eukaryotes. Based on the current literature, the presentations and discussions will familiarize the student with present day technology and developing principles.

609. (IMUN609) Vaccines and Immunization Therapy. (A)

David Weiner, Ph.D., Paul Offit, M.D.

Prerequisite(s): Biology, biochemistry at the advanced college level, college level immunology is recommended. Not limited to CAMB students, however first options are to CAMB students.

Vaccination is perhaps the most successful medical technological intervention. The goal of this course is to expand on students' general understanding of the immune system and to focus this understanding towards the application of vaccination and immune therapies for the 21 century. Furthermore, the course will give the student a sense of how these principles are applied to vaccine and immune therapeutic development. The course covers basic science as well as the clinical, regulatory, ethical, and political issues and implications of modern vaccines and world health.

Initial lectures review immune mechanisms believed to be responsible for vaccine induced protection from disease. Subsequent lectures build on this background to explore the science of vaccines for diverse pathogens, including agents of bioterrorism as well as vaccines for cancer. An appreciation for the application of laboratory science to the clinical development and studies of vaccines is provided in the next section of the course along with lectures, which focus on the regulatory, safety, and ethical implications of vaccines in different world situations. The financial implications of specific vaccines on global health is one focus of the course.

The course is lecture style with many, many guest lecturers who are experts in their particular area of vaccine development. There are required readings to provide the student context and background for the diverse lectures topic. Students are graded on course participation, and a final project/exam. The project is to design in a PowerPoint report a vaccine strategy for a current disease or pathogen of importance that does not as yet have an effective vaccine or immune therapy. Strategies used should build on the material presented in the class lectures. The course is intended for graduate students or medical students in various MS, Ph.D., or MD/Ph.D. programs on the campus, as well as local scientists and professionals in the community. As a prerequisite students should have taken biology, biochemistry, or immunology courses at the advanced college level.

610. Gene Therapy and Genome Editing. (A)

James Wilson.

Prerequisite(s): Background in biochemistry, cell biology and molecular biology. Any student not enrolled in a BGS graduate program who wishes to take this course must get permission in advance from Dr. Wilson. Students should send their undergraduate and graduate transcripts (including spring semester) along with their request to Dr. Wilson via email: wilsonjm@mail.med.upenn.edu and copy Robin Hartley:

hartleyr@exchange.upenn.edu. This class is not accepting Non-BG S masters students.

This is a team-taught, survey course that focuses on the basic science relevant to achieving efficient and effective gene transfer in animal models and humans for the treatment of disease. The course includes a unit devoted to a variety of vectors useful for gene transfer, with the remainder of the course devoted to the study of current gene therapy approaches using specific diseases as models. Prior background in biochemistry, cell biology, and molecular biology is essential. Aspects of organ system anatomy and physiology, virology, and immunology that are relevant to the course material are included in the course. Because of rapid movement in this field, specific topics vary somewhat from year to year. Offered every fall.

615. (BMB 518, NGG 615) Protein Conformation Diseases. (A)

Yair Argon; Harry Ischiropoulos. Prerequisite(s): BIOM 600 or equivalent.

Protein misfolding and aggregation has been associated with over 40 human diseases, including Alzheimer's disease, Parkinsons disease, amyotrophic lateral sclerosis, prion diseases, alpha (1)-antitrypsin deficiency, inclusion body myopathy, and systemic amyloidoses. This course will include lectures, directed readings and student presentations to cover seminal and current papers on the cell biology of conformational diseases including topics such as protein folding and misfolding, protein degradation pathways, effects of protein aggregation on cell function, model systems to study protein aggregation and novel approaches to prevent protein aggregation.

Target audience is primarily 1st year CAMB, other BGS graduate students, or students interested in acquiring a cell biological perspective on the topic. MD/PhDs and Postdoc are welcome. MS and undergraduate students must obtain permission from course directors. Class size is limited to 14 students.

SM 620. Thematic Concepts in Developmental Biology. (A)

DiNardo, S., Speck, N. Prerequisite(s): BIOM 600 (CELL 600); Gene Regulation; a developmental biology course (CAMB 511 or equivalent) is suggested not required. CAMB students have priority.

The goal of this seminar course is to foster discussion about general strategies used by cells and organisms to solve fundamental problems during development. This is not a survey course in Developmental Biology. Rather, we focus on an overarching theme for the semester (see below), enabling us to define the issues central to that theme, and explore attempts to uncover solutions using different model systems. Primary research papers are assigned for discussion, and all students are expected to contribute thoughtfully and energetically to the discussion each week. Prior years' topics have been: "Cell migration in Development", "Evolutionary Development", "Developmental links to Disease", "Cell Biology in Development", "Stem Cells", "Rulers, Clocks & Oscillators in Development", "Cell Biological Mechanisms in Development. Offered fall semester.

SM 630. Topics in Human Genetics and Disease. (H)

E. Shore, M. Devoto, S. Grant. Prerequisite(s): CAMB graduate students having taken CAMB550, or students in MD/PhD, veterinary, genetic counseling or nursing programs with equivalent courses. Must have directors permission to register.

Building on the foundations of the Human Genome and HapMap projects, as well as parallel efforts in model organisms, research in human genetics and genomics is progressing rapidly. Our understanding of basic concepts in genetics, and Mendelian and non-Mendelian human genetic disease is proceeding at an unprecedented pace. This course will provide students with an overview approaches to understanding current problems and techniques in human genetics. The format will be an advanced seminar course, with directed reading and students presentations.

Every week, students are expected to participate in a 2-hour class session, and two students will present recent publications in human genetics and disease. After each session, instructors will meet with presenting students for 30 min. to provide individual feedback. Course directors will attend each class, and guest preceptor with relevant scientific expertise may also participate. Students will be assigned readings for the first half of the course, and then select their own papers for the second half of the course. Presentations

will be prepared in consultation with course directors. Students must meet with instructors at least one to two weeks prior to the presentation date. In class, the student discussion leaders will i) present background information necessary to understand the assigned paper (10-15 min.), ii) lead discussion of the paper, focusing on critical evaluation of the methods and results, and iii) talk about the future directions for this research.

A short written assignment will be due by the end of the course. This written work will be in the form of a review piece or "news and views" format commonly seen in scientific journals. The topic of this review can be based on one of the two topics the student presents in class, or on a separate topic approved by the instructors. The review should be approximately 1,000 words or less (no more than 4 double-spaced pages).

Grading: Students will be evaluated based on class participation (25%), their first presentation (25%) and their second presentation (25%), and the written assignment (25%).

SM 632. (PHRM632) Cell Control by Signal Transduction Pathways. (B)

X. Hua, J. Field, A. Resnick, and W. Pear. Prerequisite(s): BIOM 600, Molecular and Cell Biology Courses. Priority given to PhD students. Class is limited to CAMB, PHARM, IMUN and other graduate students, including engineering. Masters will go on waiting list.

This course, "Targeting the cancer cell: from mechanism to precision medicine", will examine how various signal transduction mechanisms influence cell functions including replication, growth, transcription, translation and intracellular trafficking. We will also consider how non-cell autonomous mechanisms, such as the tumor microenvironment and the immune system influence cancer cell signaling. We will consider how important signaling pathways, such as Ras, Raf, Notch, Wnt, TGF beta, and various kinases/phosphatases become dysregulated in cancer, as well as delve into how the DNA damage response, immune system, and tumor microenvironment exert important influences on oncogenic signaling.

In the first half of the course, invited faculty members will pick 2 relatively recent papers from their field that highlight important areas. Each paper will be assigned to a student, who will meet with the faculty mentor prior to the class to discuss the paper and their presentation. During the class, students will present each paper for approximately 45 minutes with time for discussion. Students will present

the important background, break down the paper, look for strengths and weakness and come up with a plan of what the next set of experiments could or should be. In the second half of the course, students will independently pick a relevant paper for in class presentation and will also write a short "News and Views" style article based on the paper they have chosen. The goal of the course is to provide students with a view of the cancer cell that integrates both cell autonomous and non-cell autonomous signals and to use this information to consider how to successfully treat cancer.

SM 633. Advanced Seminar in Gene Therapy. (K) Dr. James M. Wilson.

Prerequisite(s): Background in biochemistry, cell biology, molecular biology, and immunology.

This year's Advanced Seminar in Gene Therapy will cover controversial topics in the field. It will meet on Wednesdays from 4:30 - 6:30pm. The goal of this seminar is to provide graduate students with an understanding of the challenges, both experimentally and practical, that face the gene delivery field. At least two sessions will deal with ethical issues. With the exception of the first class meeting, each of the weekly, two-hour sessions will be devoted to a discussion of two recent papers. All students are to have read the papers. Evaluation will be based on attendance (required), active participation, and preparation of reviews of papers. Students will be introduced to the process of manuscript review and will be asked to provide critical reviews for two manuscripts.

Students who are not in CAMB need to request permission from the course director, Dr. James Wilson, via email: wilsonjm@mail.med.upenn.edu.

SM 637. Gene Therapy: Vectors, Immunology, and Disease. (J) J. Riley.

Prerequisite(s): Background in molecular biology, virology and immunology. BGS Students only. BGS Students only.

This seminar course is designed to provide students with a cohesive understanding of virology and immunology of gene therapy. Three major themes will be covered: vectors, vector immunology and gene therapy of genetic and acquired diseases. The topics to be covered are viewed as an extension of topics covered in CAMB 610 (Molecular Basis of Gene Therapy), although CAMB 610 is not an absolute prerequisite for this seminar. Each class will consist of a brief introduction by an instructor, reviewing background information related to the theme discussion.

The topics are explored through discussions, led by assigned students, of seminal research articles. Students are expected to have thoroughly reviewed the assigned articles and be able to present and discuss various aspects of the papers. Regular attendance and active participation in the discussions, which focus on critical evaluation of experimental design, data presentation and interpretation, is essential. Student evaluation will be based on attendance, in-class presentation (for 50% of the letter grade), and a take-home exam (for another 50% of the grade).

SM 691. Advanced Topics in Cell Biology & Physiology. (J) E. Grishchuk, M. Marks, C. Deutsch.

Prerequisite(s): BIOM 600 or a similar survey course in cell biology. Permission needed for all non-CAMB students. Advanced undergrads must contact instructor to confirm qualifications.

This course, together with its companion CAMB 692, offers an advanced, in depth analysis of selected topics in cell biology and physiology. CAMB 691 and 692 are complementary courses that focus on different aspects of cell biology; these courses are offered on an alternating basis in the spring semester. The courses can be taken in either order, but require BIOM 600 or an equivalent background in basic cell biology. CAMB 691 will focus on key issues at the forefront of research in the areas of (1) Channels and transporters, (2) Vesicular and viral trafficking, (3) Tissue mechanics, (4) Heart and muscle physiology, (5) Cytoskeletal dynamics and cell division. The course format pairs faculty presentations with student-led discussion sessions highlighting important papers from the primary literature. Students will be evaluated on their presentations, their participation in class discussions, and weekly problem sets. Offered alternately in the spring semester with CAMB 692.

SM 692. Advanced Topics in Cell Biology and Physiology II: Cell Signaling. (K) M. Lemmon, J. Baur.

Prerequisite(s): BIOM 600 or a similar survey course in cell biology, or the permission of the instructor. We encourage participation by non-CAMB students.

Cells in complex organisms are required to adapt rapidly in a changing environment. Maintaining homeostasis while performing specialized functions requires that cells respond to extracellular signals as well as fluctuations in a host of intracellular metabolites. This course will cover selected topics and general principles related to signal transduction and the control of metabolic flux in living cells.

The course format will include student-led discussion sessions both providing an overview of a topic as well as focusing on important papers from the primary literature. Students will be evaluated on their presentations and participation, as well as problem sets. Offered alternately in the spring semester with CAMB 691.

695. Scientific Writing. (B) J. Katz, J. Lok. Prerequisite(s): BIOM 600, BIOM 555 and CAMB 605. Preference for enrollment in CAMB 695 is given to CAMB students with highest priority given to second-year students. Students from graduate groups other than CAMB may be enrolled if space permits.

This 7-week course is designed to introduce students to basic scientific writing skills and is ideal for second year graduate students preparing for qualifying examinations. Participants will review the general principles of clear, persuasive writing, and will apply these principles to writing for a scientific audience. Particular emphasis will be placed on conveying the significance of your research, outlining the aims, and discussing the results for scientific papers and grant proposals. The course will also provide an overview of the structure and style of research grant proposals and scientific manuscripts. Classes are highly interactive, and the majority of class time will be spent discussing student scientific writing.

Evaluation: The goal of the course is to encourage active and open interaction among students. Ideal endpoints include improved self-editing, and development of effective strategies for offering and receiving editorial recommendations among peers. Grading will be predominantly based on class attendance, participation, and timely submission of assignments-not on the quality of the writing itself.

SM 696. Contemporary Topics in Parasitology Research. (B) J. Lok, C. Lengner, and M. Povelones. Prerequisite(s): CAMB 549-001, Parasites and Parasitism.

This is a paper-based seminar course. Each week a student is assigned a recent seminal paper related to parasitology research. The papers are chosen by guest faculty. Students are required to provide concise but comprehensive background and present the paper in a journal club style format. A principal aim of the course is to develop the ability think outside of the box and to cultivate the skills necessary for developing the ability to critically appraise one's own research and that of others. The ability to present and review work will be tested.

SM 697. Biology of Stem Cells. (B) P. Gadue, C. Lengner. Prerequisite(s): BGS Core Courses. Graduate students only. NO undergraduates. Students other than CAMB will need permits. CAMB students receive priority seating.

The goal of this course is to introduce graduate students to the field of stem cell biology through lectures and reviews of important contributions from the literature. Topics include stem cell niche biology, epigenetics and reprogramming, tissue specific stem cells such as hematopoietic and epithelial stem cells, tissue regeneration, tissue engineering, and ethical and legal issues of stem cell and regeneration biology. The future potential and challenges in stem cell and regeneration biology will be discussed. Important aspects of stem cell identification and characterization utilizing multiple model systems will also be a focus. Offered Spring Semester. Limited to 14 students.

SM 698. Elective Tutorials in Cell Biology. (C) Lee, Robert (Fall semester) and Wei Tong (Spring semester). Prerequisite(s): Cell 600 or an alternative senior undergraduate, graduate, or professional school course in Cell Biology. Corequisite(s): Interested students must contact Dr. Lee: Robert Lee, PhD, Assistant Professor of Otorhinolaryngology and Physiology, 145A Clinical Research Building. (215) 573-9766, rjl@mail.med.upenn.edu in the fall semester and Dr. Wei Tong tongw@email.chop.edu in the spring semester.

This tutorial course is designed to provide students with an in-depth knowledge of a specific topic in cell biology. The tutorial can be used to enable students to become more deeply acquainted with the literature related to their field of interest or to expand on a topic that the student found interesting in one of their basic courses. Interested students can receive help choosing a faculty mentor and proposed topic or make arrangements with faculty on their own, but all arrangements must be approved by the course director. Students taking the course will attend an initial organizational meeting during the first week of classes. Students will meet weekly (1-2 hrs) with faculty mentors to discuss the literature (typically 2-3 papers per week), and in the end will write a brief review article and give an oral presentation. Students will receive advice and feedback from the course director and mentor on organizing the presentation and writing the review-style article. Grades will be determined by both the mentor and course

director, based on effort and the final presentation /paper.

SM 700. Topics in Microbiology. (B) S. Cherry. Prerequisite(s): Permission from instructor required. Student must have taken Immunology and 2 MVP pathogen classes.

This course is designed for second year students in the MVP program, and focuses on pathogen-host interactions. Students make a presentation designed for 30 minutes on a topic of their choice. The topic can be something that they are working on, or simply something that they are interested in. They are requested to provide sufficient background, discuss what is known and what is not known about the topic, and then frame two to three Specific Aims. The success of the course rests entirely upon the quality of the faculty and students involved. In past years, the class have been very interactive, with each of the 11 classes lasting about 1.5 hours. The discussions are deliberately wide-ranging, and review recent literature, techniques, and how to construct a grant. Generally, two faculty will be in attendance.

SM 701. Tumor Microenvironment. (B) E. Pure & C. Koumenis. Prerequisite(s): First year CAMB core courses must be completed. Course is for 2nd year graduate students and beyond. Corequisite(s): CB students get first priority followed by other CAMB students.

Course Content: This 15-week course is designed for second year (and up) graduate students interested in learning about the tumor microenvironment. The course will cover the cross-talk between the main players (tumor cells, stroma, vasculature and immune cells) of the local tumor microenvironment field as well as the systemic response/impact of primary tumors, disseminated tumor cells and metastases, and emphasize the connections between the basic biology of the tumor microenvironment to potential therapeutic intervention. The goals of this course are to enrich scientific culture, train for clear and concise oral presentations, improve grant-writing skills, and develop critical thinking, professional composure and discussion skills.

The course will be divided into 3 broad topic areas. At the beginning of each block, faculty members will present a 1 hour didactic lecture and overview of the topic followed by questions and discussions by students. Each week's session will be led by one or two students depending on the class size and include a didactic primary research paper including specific

technical background needed for the paper, presenting the data in the paper, leading discussion on the data and conclusions drawn from the paper. Required reading (including reviews and 1-2 primary papers) related to each week's class will be assigned for all participants in preparation for in class discussion focused on the contribution and impact of the presented paper to the field. Students will be guided in choosing the appropriate depth of background and topic area and in giving formal presentations and constructive criticism of scientific data. Additionally each student will write a specific aim for a grant using data reviewed in one of his or her presentations as "preliminary data".

Evaluation: Students will be evaluated on their participation in class (40%), their presentations (40%) and their written assignment (Grant Specific Aim) (20%). Students will be given feedback immediately after their presentations and at the end of the second block on their in-class participation.

SM 702. (BMB 650) Current Biochemical Topics. (B) Black, B. & Shorter, J. Prerequisite(s): Course is limited to BGS graduate students and undergrads from the Vagelos Scholars Program.

Participation in the "Dr. George W. Raiziss Biochemical Rounds", a weekly seminar program sponsored by the Department of Biochemistry and Biophysics. Program deals with a wide range of modern biochemical and biophysical topics presented by established investigators selected from our faculty, and by leading scientists from other institutions.

703. (BE 640) The ECM, adhesion receptor signaling, and translational biomechanics. (J) R. Mauck, R. Wells. Prerequisite(s): BIOM 600.

This course is geared towards first and second year graduate students in BGS/CAMB and SEAS/BE with an interest in the interface of extracellular matrix (ECM) cell biology and biomechanics. Students will learn about the ECM and adhesion receptors and their impact on the cytoskeleton and signaling, as well as

fundamental concepts in biomechanics and engineered materials. We will discuss how these topics can inform the study of cell biology, physiology and disease. An additional objective of the course is to give students experience in leading critical discussions and writing manuscript reviews. Invited outside speakers will complement the strengths of the Penn faculty.

704. Stress Responses and Metabolism in Cancer. (A) C. Simon, Z. Arany. Prerequisite(s): Must have taken first year CAMB courses. Permission to enroll is required from course directors, preference is given to second year CAMB students in the Cancer Biology Program.

The course will meet once weekly for student presentations and lectures. The goal of the course will be to give students a better understanding of the abrogation of normal cellular metabolism and stress signaling during cancer and how these interplay with each other to create/maintain a malignant state. Besides student presentations the course will include 4 lectures devoted to metabolomics methodologies.

SM 705. Advanced Topics in Bacterial-Host Interactions. (B) Igor Brodsky and Sunny Shin. Prerequisite(s): Strong background in cell biology, immunology and/or bacteriology fulfilled by 1st year CAMB (previous BGS) courses. Course is limited to 2nd - 3rd year graduate students or advanced undergraduates with course directors permission.

This course will delve into specific topics in general area of bacterial pathogenesis and bacteria-host interactions. We will be exploring key historical and current papers on topics related to bacterial invasion of and replication within host cells, bacterial interference with host cell signaling pathways, bacterial interactions with host mucosal tissues, and the role of bacterial colonization in shaping and instructing host immune responses. Each week, a student will lead the class in the discussion of published papers on a specific topic. The

format of each class will be a 10-15 minute introduction of the key background and underlying questions to be presented by the student, followed by an in-depth analysis by all members of the class of one to two articles. Students will be graded based on their introductory presentation and active participation in the paper discussions.

706. MVP Core. (F) M. Betts and P. Bates. Required for all CAMB-MVP students. Non MVP students must obtain instructor permission to take this course.

The MVP Core class, to be held in the Fall and Spring for first year CAMB-MVP students, will provide CAMB-MVP with key fundamental knowledge of Microbiology, Virology, and Parasitology. The course will be organized into three sections after 2 overview lectures as described in the syllabus.

SM 752. (GCB 752) Genomics. (B) S. Diskin. Prerequisite(s): GCB 531/534 Intro to Genomics or equivalent, or permission from instructor.

Recent advances in molecular biology, computer science, and engineering have opened up new possibilities for studying the biology of organisms. Biologists now have access to the complete genomic sequence and set of cellular instructions encoded in the DNA of specific organisms, including homo sapiens, dozens of bacterial species, the yeast *Saccharomyces cerevisiae*, the nematode *C. elegans*, and the fruit fly *Drosophila melanogaster*.

The goals of the course include the following: 1) introduce the basic principles involved in sequencing genomes, 2) familiarize the students with new instrumentation, informative tools, and laboratory automation technologies related to genomics; 3) teach the students how to access the information and biological materials that are being developed in genomics, and 4) examine how these new tools and resources are being applied to basic and translational research. This will be accomplished through in depth discussion of classic and recent papers.

995. Dissertation.

CHEMICAL AND BIOMOLECULAR ENGINEERING (EG) {CBE}

099. Undergraduate Research and Independent Study. (C) A maximum of 2 c.u. of CBE 099 may be applied toward the B.S.E degree requirements.

An opportunity for the student to work closely with a professor in a project to develop skills and technique in research and development. To register for this course, the student writes a one-page proposal that is approved by the professor supervising the research and submitted to the undergraduate curriculum chairman during the first week of the term.

111. Modern Engineering Problem Solving. (A)

The application of computer tools to engineering problem solving.

150. Introduction to Biotechnology. (A) Prerequisite(s): Reserved for Freshmen only.

The goal of this course is to teach you the fundamentals of biotechnology and introduce you to concepts in Chemical Engineering along the way. Concepts in Biotechnology that will be covered include, DNA, RNA, the Central Dogma, proteins, recombinant technology, RNA silencing, electrophoresis, chromatography, synthetic biology, pull down assays, PCR, hybridization, array technology, DNA machines, DNA sequencing, and forensics. Concepts in Chemical Engineering that will be covered include the mass balance, scaling laws and the Buckingham-Pi theorem, kinetics of enzyme reactions, thermodynamics of molecular binding, the Langmuir isotherm, separations via chromatography.

160. Introduction to Chemical Engineering. (B)

Students will learn to read and understand a process flow sheet. There is a focus on drawing a process flow sheet, and formulating and solving the material balances for the chemical processes involving chemical reactions (some with recycle streams, some with purge streams, and some with bypass streams). Additionally, students will understand the limits of the ideal gas law, and have a working knowledge of the cubic equations of state and the concept of a compressibility factor. The class will study the basic concepts of gas-liquid phase equilibrium and apply Raoult's Law to

solve phase equilibrium problems. A final objective is to design flow sheets and solve material balances for simple chemical processes using ASPEN (chemical engineering simulation program).

L/R 230. Material and Energy Balances of Chemical Processes. (A)

Prerequisite(s): CBE 160, Sophomore standing.

Analysis of processes used in the chemical and pharmaceutical industries. Mass and energy balances, properties of pure fluids, equations of state. Heat effects accompanying phase changes and chemical reactions.

L/R 231. Thermodynamics of Fluids. (B)

Hollaran. Prerequisite(s): CBE 230.

Students will understand, evaluate, and apply different equations of state relating pressure, temperature, and volume for both ideal and non-ideal systems. The course will focus on calculating and applying residual properties and departure functions for thermodynamic analysis of non-ideal gases. Students will apply and describe simple models of vapor-liquid equilibrium in multi-component systems (e.g. Raoult's Law, modified Raoult's Law, Henry's Law). Additionally, the class will analyze and describe properties of non-ideal mixtures and their component species. We will also model and predict reaction equilibria (including non-ideal fluid systems), as well as solve problems related to complex phase equilibria of multi-component systems (find equilibrium compositions for non-ideal phases).

296. Study Abroad.

297. Study Abroad. (C)

L/R 350. Fluid Mechanics. (A) Hollaran. Prerequisite(s): CBE 231.

This course is designed for students to understand the fundamental characteristics of fluids. We will develop, starting from first principles, the basic equations for fluid statics, and use them to assess buoyancy forces and determine the pressure variations in fluids with rigid body rotation. Students will understand in detail the basic types of fluid flow line patterns (eg. streamlines and streamtubes) and the different types of interchangeable energy forms (eg. kinetic, potential, and pressure). It is also important to develop, starting from first principles, the formulations for inviscid and viscous flow problems. These include the discussion of a control system and system boundaries, the detailed construction of conservation equations of mass, energy, and momentum for

Newtonian fluids, the derivation of the Navier-Stokes equations, and the determination of appropriate initial and boundary conditions. A final objective of the course is to solve various fluid mechanics problems using control systems, dimensional analysis, and developed equations. Such problems include, but are not limited to, the terminal velocity of a falling sphere, Stokes flow, the relation between the friction factor and the Reynolds number, and flow profiles in numerous geometries.

L/R 351. Heat and Mass Transport. (B)

Prerequisite(s): CBE 350.

Steady-state heat conduction. The energy equation. Fourier's law. Unsteady-state conduction. Convective heat transfer. Radiation. Design of heat transfer equipment. Diffusion, fluxes, and component conservation equations. Convective mass transfer. Interphase mass transport coefficients.

L/R 353. Advanced Chemical Engineering Science. (A)

Prerequisite(s): CBE 231.

Applications of physical chemistry to chemical engineering systems. Equilibrium statistical mechanics of ideal gases, dense fluids and interfacial phases. Chemical reaction rates. Collision and transition state theories. Heterogeneous catalysis. Electronic structure and properties of solids.

371. Separation Processes. (B)

Prerequisite(s): CBE 231.

The design of industrial methods for separating mixtures. Distillation; liquid-liquid extraction; membranes; absorption. Computer simulations of the processes.

375. Engineering and the Environment. (B)

Prerequisite(s):

Sophomore Standing.

The principles of green design, life cycle analysis, industrial ecology, pollution prevention and waste minimization, and sustainable development are introduced to engineers of all disciplines as a means to identify and solve a variety of emerging environmental problems. Case studies are used to assess the problems and devise rational solutions to minimize environmental consequences.

L/R 400. Introduction to Product and Process Design. (A)

Prerequisite(s):

CBE 351, 371. Corequisite(s): CBE 451.

Molecular-structure design, process synthesis, steady-state and batch simulation, second-law analysis, heat

integration, equipment sizing, and capital cost estimation.

410. Chemical Engineering Laboratory. (A) Prerequisite(s): CBE 351, 371.

Experimental studies in heat and mass transfer, separations and chemical reactors to verify theoretical concepts and learn laboratory techniques. Methods for analyzing and presenting data. Report preparation and the presentation of an oral technical report.

430. (CBE 510, MSE 430) Polymers and Biomaterials. (B) Prerequisite(s): MSE 260 or equivalent course in thermodynamics or physical chemistry (such as BE 223, CBE 231, CHEM 221, MEAM 203).

Polymer is one of the most widely used materials in our daily life, from the rubber tires to clothes, from photoresists in chip manufacturing to flexible electronics and smart sensors, from Scotch tapes to artificial tissues. This course teaches entry-level knowledge in polymer synthesis, characterization, thermodynamics, and structure-property relationship. Emphasis will be on understanding both chemical and physical aspects and polymer chain size/dimension that drive the molecular, microscopic and macroscopic structures and the resulting properties. We will discuss how to apply polymer designs to advance nanotechnology, electronics, energy and biotechnology. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, shape memory polymers, hydrogels, and elastomeric deformation and applications.

L/R 451. Chemical Reactor Design. (A) Prerequisite(s): CBE 231 and CBE 351.

Design of reactors for the production of chemical products. Continuous and batch reactors. Chemical kinetics. Effects of back-mixing and non-ideal flow in tubular reactors. Heterogeneous reactions. Construction and economic analysis of reactors.

L/R 459. Product and Process Design Projects. (B) Prerequisite(s): CBE 400.

Design of chemical, biochemical, and materials products and processes based on recent advances in chemical and bioengineering technology. Design group weekly meetings with faculty advisor and industrial consultants. Comprehensive design report and formal oral presentation. Heat exchanger design and profitability analysis.

L/R 460. Chemical Process Control. (B) Prerequisite(s): CBE 353.

Dynamics and control of linear single-input, single output (SISO) systems in chemical processes. Laplace transforms. Dynamic responses of linear systems to inputs in time and transform domains. Frequency domain analysis. Feedback control strategies. Stability. Controller tuning. Advanced control, including cascade and feed forward control. Introduction to multiple-input, multiple-output (MIMO) control.

L/R 479. Biotechnology and Biochemical Engineering. (A)

Prerequisite(s): Junior/Senior Standing in Engineering and CBE 150 or Permission of the Instructor.

An overview of several important aspects of modern biotechnology from a chemical engineering perspective: DNA, enzymes, proteins, molecular genetics, genetic engineering, cell growth kinetics, bioreactors, transport processes, protein recovery and protein separations. Group projects include a MATLAB project and a pharmaceutical profile.

L/L 480. Laboratory in Biotechnology and Genetic Engineering. (B)

Prerequisite(s): CBE 479 or Permission of the Instructor.

The laboratory methods in biochemical and genetic engineering learned include molecular cloning techniques, cell transformation, DNA gel electrophoresis, ImageJ, PCR, DNA sequencing, SDS-PAGE, Western Blot, and enzyme assays. Culture techniques for bacteria, yeast and animal cells are taught and practiced. The students write several individual lab reports during the semester. A group presentation and report on a proposal for a new lab experiment is the final assignment for the lab.

508. Probability and Statistics for Biotechnology. (L)

This course is designed as an overview of probability and statistics including linear regression, correlation, and multiple regression. The program will also include statistical quality control and analysis of variance with attention to method of analysis, usual method of computation, test on homogeneity of variances, simplifying the computations, and multi-factor analysis.

510. (CBE 430, MSE 430) Polymer Engineering. (B)

Polymer is one of the most widely used materials in our daily life, from the rubber tires to clothes, from photoresists in chip manufacturing to flexible electronics and

smart sensors, from Scotch tapes to artificial tissues. This course teaches entry-level knowledge in polymer synthesis, characterization, thermodynamics, and structure-property relationship. Emphasis will be on understanding both chemical and physical aspects and polymer chain size/dimension that drive the molecular, microscopic and macroscopic structures and the resulting properties. We will discuss how to apply polymer designs to advance nanotechnology, electronics, energy and biotechnology. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, shape memory polymers, hydrogels, and elastomeric deformation and applications.

511. Physical Chemistry of Polymers and Amphiphiles. (A)

This course deals with static and dynamic properties of two important classes of soft materials: polymers and amphiphiles. Examples of these materials include DNA, proteins, diblock copolymers, surfactants and phospholipids. The fundamental theories of these materials are critical of understanding polymer processing, nanotechnology, biomembranes and biophysics. Special emphasis will be placed on understanding the chain conformation of polymer chains, thermodynamics of polymer chains, thermodynamics of polymer solutions and melts, dynamics of polymer and statistical thermodynamic principles of self-assembly.

520. Modeling, Simulations, and Optimization of Chemical Processes. (M)

Nonlinear systems: numerical solutions of nonlinear algebraic equations; sparse matrix manipulations. Nonlinear programming and optimization; unconstrained and constrained systems. Lumped parameter systems: numerical integration of stiff systems. Distributed parameter systems: methods of discretization. Examples from analysis and design of chemical and biochemical processes involving thermodynamics and transport phenomena.

521. Fundamentals of Industrial Catalytic Processes. (M)

This course will introduce students to the important concepts involved in industrial catalytic processes. The first part of the course will review some of the fundamental concepts required to describe and characterize catalysts and catalytic reactions. The majority of the course will then focus on applying these concepts to existing heterogeneous catalysts and

catalytic reactions, including discussion of the actual process design and engineering. Descriptions of some homogeneously catalyzed processes like polymerization and the synthesis of acetic acid will also be covered.

522. Polymer Rheology and Processing. (C) Prerequisite(s): MEAM 302 and 333 or CBE 350 and 351 or equivalent.

This course focuses on applications of rheology to polymer process technologies. It includes a general review of rheological concepts, including viscoelasticity and the influence of shear rate, temperature and pressure on polymer flow properties. The course covers the elementary processing steps common in various types of polymer manufacturing operations including handling of particulate solids, melting, pressurizing and pumping, mixing and devolatilization. Specific polymer processing operations including extrusion, injection molding, compression molding, fiber spinning and wire coating are covered. Emerging polymer processing applications in microelectronics, biomedical devices and recycling are also discussed.

L/L 525. Molecular Modeling and Simulations. (A) Prerequisite(s): CBE 231 or 618 or equivalent background in physical chemistry.

Students will explore current topics in thermodynamics through molecular simulations and molecular modeling. The requisite statistical mechanics will be conveyed as well as the essential simulation techniques (molecular dynamics, Monte Carlo, etc.). Various approaches for calculating experimentally measurable properties will be presented and used in student projects.

535. Interfacial Phenomena. (C)

This course provides an overview of fundamental concepts in colloid and interface science. Topics include the thermodynamics of interfaces, interfacial interactions (e.g. van der Waal's interactions, electrostatics, steric interactions), adsorption, the hydrodynamics and stability of interfacial systems, self assembly, etc. Connections to self-assembly and directed assembly of nanomaterials and emerging topics are explored. Pre-requisites: undergraduate thermodynamics, some familiarity with concepts of transport phenomena (including fluid flow and mass transfer) and differential equations

L/R 540. (BE 540) Biomolecular and Cellular Engineering. (C)

This course will introduce concepts and methods for the quantitative understanding of molecular and cellular phenomena. Topics include molecular recognition, receptor-ligand binding, viral infection, signal transduction, cell adhesion, motility, and cytoskeletal dynamics. The course requires mathematics at the level of differential equations, and some knowledge of Matlab programming. A basic knowledge of cell biology is suggested, although not required.

541. (BE 541) Engineering and Biological Principles in Cancer. (B)

Prerequisite(s): Senior standing or permission of the instructor.

This course provides an integrative framework and provides a quantitative foundation for understanding molecular and cellular mechanisms in cancer. The topics are divided into three classes: (1) the biological basis of cancer; (2) cancer systems biology; and (3) multiscale cancer modeling. Emphasis is placed on quantitative models and paradigms and on integrating bioengineering principles with cancer biology.

543. Sust Dev/Water Res Sys. (B)

The application of systems methodology to the design of water supply and sanitation projects. The focus is on the designing for sustainability by emphasizing how technical solutions fit within the appropriate social context. Case studies are used to demonstrate these principles across a range of examples from developed and developing countries.

545. Electrochemical Energy Conversion and Storage. (C)

Prerequisite(s): Introductory chemistry and an undergraduate course in thermodynamics (e.g. CBE 231, MEAM 203).

Fuel cells, electrolysis cells, and batteries are all electrochemical devices for the interconversion between chemical and electrical energy. These devices have inherently high efficiencies and are playing increasingly important roles in both large and small scale electrical power generation, transportation (e.g. hybrid and electric vehicles), and energy storage (e.g. production of H₂ via electrolysis). This course will cover the basic electrochemistry and materials science that is needed in order to understand the operation of these devices, their principles of operation, and how they are used in modern applications.

546. Fundamentals of Industrial Catalytic Processes. (B)

A survey of heterogeneous catalysis as applied to some of the most important industrial processes. The tools used to synthesize and characterize practical catalysts will be discussed, along with the industrial processes that use them.

L/R 552. (BE 552) Cellular Bioengineering. (B)

Application of chemical engineering principles to analysis of eukaryotic cell biological phenomena, emphasizing receptor-mediated cell function. Topics include receptor/ligand binding kinetics and trafficking dynamics, growth factor regulation of cell proliferation, cell adhesion, cell migration and chemotaxis, and consequences of these in physiological situations such as the immune and inflammatory responses, angiogenesis, and wound healing.

554. (BE 554) Engineering Biotechnology. (B)

Advanced study of re DNA techniques; bioreactor design for bacteria, mammalian and insect culture; separation methods; chromatography; drug and cell delivery systems; gene therapy; and diagnostics.

L/R 555. (BE 555, MEAM555) Nanoscale Systems Biology. (A)

Discher. Prerequisite(s): Background in Biology, Chemistry or Engineering with coursework in thermodynamics or permission of the instructor.

From single cell manipulations down to studies of single nanoparticles and single molecules, basic cell- molecular biology and biotechnologies are increasingly 'nano' as well as quantitative. Lectures and laboratories in this course start with nano aspects of optical detection, address the basic thermodynamics of biomolecular interactions, and then cover genomic scale devices. Nanoprobe methods are then complemented by basic theories of self-assembly and polymers as well as application in drug delivery and virus engineering with analyses of limitations imposed by the innate immune system. Skills in analytical and professional presentations, papers and laboratory work will be developed.

L/R 557. Stem Cells, Proteomics and Drug Delivery - Soft Matter Fundamentals. (B)

Prerequisite(s): Background in Biology, Chemistry or Engineering.

Lectures on modern topics and methods in cell and molecular biology and biomedicine from the perspective of soft matter science

and engineering. Discussions and homeworks will cover soft matter related tools and concepts used to 1) isolate, grow, and physically characterize stem cells, 2) quantify biomolecular profiles, 3) deliver drugs to these cells and other sites (such as tumors with cancer stem cells) will be discussed. Skills in analytical and professional presentations, papers and laboratory work will be developed.

560. Biomolecular Engineering. (M)

This course will cover current state of the art in engineering approaches to design, optimization, and characterization of biomolecules. Particular emphasis will be placed on proteins. Fundamental physical biochemistry of biological macromolecules will be reviewed to provide a basis for understanding approaches to de novo protein design, combinatorial directed evolution, methods for analysis of structure and function, and practical applications for this class of molecules. Much of the course material will be drawn from the current literature.

562. (BE 562) Drug Discovery and Development. (A)

Part A. Intro to Drug Discovery; Overview of Pharmaceutical Industry and Drug Development Costs, Timelines; High Throughput Screening (HTS); Assay Design and Sensitivity Solid Phase Synthesis and Combinatorial Chemistry; Enzyme Kinetics; Fluorescence, Linearity, Inner-filter effect, quenching; Time dynamics of a Michaelis-Menton Reaction; Competitive Inhibitor; FLINT, FRET, TRF, FP, SPA, alpha-screen; Enzyme HTS (protease); Cell based screening; Fura-2 ratio, loading signaling; Gfp/calmodulin-gfp integrated calcium response; Estrogen/ERE-Luc HTS; Problems with cell based screening (toxicity, permeability, nonspecificity); Instrumentation, Robotics/Automation; Z-factor; SAR, Positioning Scanning; Microarray HTS; IC50, % Conversion in HTS and IC50, Assay Optimization.

Part B. New drug development and regulatory compliance related to small molecules and biologics, overview of biopharma industry, regulation and development process for new chemical entities and biologics, formulation of pharmaceutical dosage forms, current Good Manufacturing Practices, chemistry manufacture and controls, overview of Common Technical Document (CTD), managing post-approval changes - formulation, process, packaging, and analytical.

563. Dev & Manuf of Biopharm. (C)

New drug development and regulatory compliance related to small molecules and biologics, overview of biopharma industry, regulation and development process for new chemical entities and biologics, formulation of pharmaceutical dosage forms, current Good Manufacturing Practices, chemistry manufacture and controls, overview of Common Technical Document (CTD), managing post-approval changes - formulation, process, packaging, and analytical.

564. (PHRM564) Drug Delivery. (C)

Students will learn about drug distribution throughout the body, pharmacokinetics, nanoparticle systems for drug delivery, gene delivery systems, targeted drug delivery translation of new drug delivery systems to patients, and case studies on current drug delivery systems in research. Faculty from engineering and medicine will give lectures on their research interests. The students read current journal articles throughout the course. A major assignment for the course is a written and oral group proposal on a topic chosen by the students that is relevant to the course material.

L/L 580. Masters Biotech Lab. (C)

Reserved for students in the Master of Biotechnology Program.

In this course, students will learn biochemical and genetic engineering laboratory skills including molecular cloning techniques, cell transformation, DNA gel electrophoresis, ImageJ, PCR, DNA sequencing, SDS-PAGE, Western blot and enzyme assays. Cell culture techniques for bacteria, yeast and animal cells will be taught and practiced. The students write several individual lab reports during the semester. A group presentation and report on a proposal for a new lab experiment is the final assignment for the lab.

L/R 582. (BE 557) From Cells to Tissue: Engineering Structure and Function. (B)

The goal of this course is to introduce students to engineering concepts in understanding and manipulating the behavior of biological cells. We will try to understand the interplay between cells, their extracellular microenvironment, and intracellular signaling pathways in regulating cellular and multicellular structure and function. In particular, we will explore the use of modern experimental approaches to characterize and manipulate cells for bioengineering applications, and the concepts in scaling cellular engineering functional tissues. In

this context, we will focus on several topics, including signal transduction and the molecular regulation of cell function, cellular microenvironment, cell adhesion and mechanics, stem cells, multicellularity, and experimental models of tissue development.

597. Master's Thesis Research. (C)

599. Master's Indep Study. (C)

L/R 602. Statistical Mechanics of Liquids. (C) Prerequisite(s): Graduate level course in statistical mechanics (e.g. CBE 618, MSE 575, BE 619, BMB 604, PHYS 581, CHEM 521). An advanced statistical mechanics course (e.g., PHYS 611, CHEM 522) is recommended, but not required.

The course will focus on advanced concepts and methods in statistical mechanics with a particular emphasis on the liquid state, e.g. aqueous solutions, capillarity, polymers, colloids, glasses, amphiphilic self-assembly, etc. Principles of both equilibrium and non-equilibrium statistical mechanics will be discussed and connections to experimentally measurable quantities will be made wherever possible.

617. (ESE 617, MEAM613) Control of Nonlinear Systems. (A)

PID control of nonlinear systems; steady-state, periodic and chaotic attractors. Multiple-input, multiple-output systems; decoupling methods and decentralized control structures. Digital control; z-transforms, implicit model control, impact of uncertainties. Constrained optimization; quadratic dynamic matrix control. Nonlinear predictive control. Transformations for input/output linearized controllers.

L/R 618. (BE 662, MEAM662) Advanced Molecular Thermodynamics. (A)

Review of classical thermodynamics. Phase and chemical equilibrium for multicomponent systems. Prediction of thermodynamic functions from molecular properties. Concepts in applied statistical mechanics. Modern theories of liquid mixtures.

619. Application of Thermodynamics to Chemical Engineering II. (M)

An introduction to statistical mechanics and its applications in chemical engineering. Ensembles. Monatomic and polyatomic ideal gases. Ideal lattices; adsorption and polymer elasticity. Imperfect gases. Dense liquids. Computer simulation techniques. Interacting lattices.

621. Advanced Chemical Kinetics and Reactor Design. (A)

Mechanisms of chemical reactions. Transition state theory. Langmuir-Hinshelwood Kinetics. Absorption and catalysis. Simple and complex reaction schemes. Design of idealized reactors. Fluidized reactors. Solid-gas reactions. Residence time distributions. Reaction and diffusion in solid catalysts. Reactor stability and control.

L/R 640. (MEAM570) Transport Processes I. (A)

The course provides an unified introduction to momentum, energy (heat), and mass transport processes. The basic mechanisms and the constitutive laws for the various transport processes will be delineated, and the conservation equations will be derived and applied to internal and external flows featuring a few examples from mechanical, chemical, and biological systems. Reactive flows will also be considered.

641. Transport Processes II (Nanoscale Transport). (B)

A continuation of CHE 640, with additional emphasis on heat and mass transport. This course aims to teach transport concepts and methods useful in many current CBE

laboratory settings. The emphasis will be on microscopic dynamics and transport in both hard and soft systems (e.g. colloids and polymers), of relevance to a variety of biological and biomolecular systems.

Wherever possible, will make connections between classical, macroscopic transport, and what is happening microscopically. Will make use of a combination of analytic and algorithmic/numerical methods to facilitate understanding of the material. Physical topics will include stochastic, "single-molecule", non-ideal, hard sphere and frustrated systems, phase transitions, non-equilibrium statistical mechanics and optics. Concepts will include properties of stochastic functions (Gaussian statistics, correlation functions and power spectra), Fourier methods, Convolution, the Central Limit theorem, anomalous diffusion, percolation, and the Fluctuation/Dissipation theorem. Computational methods will concentrate on Monte Carlo simulations of "toy" models.

700. Special Topics. (M)

Lectures on current research problems or applications in chemical engineering. Recent topics have included heat transfer, polymer science, statistical mechanics, and heterogeneous catalysis.

701. Scattering Methods/Colloidal and Macromolecular Systems. (M)

The scattering of light, x-rays and neutrons in (1) the characterization of macromolecules in solution and the solid state, (2) the study of solid-state polymer morphology, and (3) the characterization of inorganic, organic and biological systems of colloidal dimensions. Both theory and experimental methods will be covered.

702. Surface Science. (M)

Techniques in surface science. Surface characterization techniques. Applications to MOCVD, surface chemistry, and surface physics.

737. Biotechnology Seminar. (M)**899. Independent Study. (C)****990. Masters Thesis. (C)****995. Dissertation. (C)****999. Thesis/Dissertation Research. (C)**

For students working on an advanced research program leading to the completion of master's thesis or Ph.D. dissertation requirements.

CHEMISTRY (AS) {CHEM}

010. Academic Based Community Service-Chemistry Outreach. (A)

L/R 012. Environmental Chemistry. (C) Physical World Sector. All classes. The course requires math literacy at the high school algebra level (2 years) and a willingness to learn Excel. Students must also have taken one year of high school chemistry.

The course aims to teach chemical content and principles in the context of significant environmental issues. Topics to be covered include: composition of the atmosphere; protecting the ozone layer; chemistry of global warming; traditional hydrocarbon fuels and energy utilization; water supply, its contaminants, and waste water treatment; acid rain; nuclear energy; and new energy sources. Students will develop critical thinking ability, competence to better assess risks and benefits, and skills that will lead them to be able to make informed decisions about technology-based matters.

SM 022. Structural Biology. (C) Natural Science & Mathematics Sector. Class of 2010 and beyond. Freshman Seminar.

This course will explain in non-mathematical terms how essentially all biological properties are determined by the microscopic chemical properties of proteins. It will also explain how research results, especially those of structural biology, are presented to its various audiences.

SM 025. Freshman Seminar: From Alchemy to Nanoscience. (A) Jeffrey Winkler.

The imperative to transform matter, find its roots in alchemy and the search for the Philosopher's Stone, which was thought to contain the secret of turning base metals into gold and also the secret of immortality. We will examine the evolution of the way in which people have thought about matter and its transformations; from the manufacturing of explosives to dyestuffs to pharmaceuticals and perfumes. We will do some simple experiments that demonstrate some of these principles. We will follow the development of the chemical sciences from the works of early alchemists to Renaissance (Newton and Boyle) scientists and modern thinkers (Priestly, Lavoisier, Dalton, Mendeleev and others). This class, which is designed for non-science as well as potential science majors, will involve

discussions on readings, as well as field trips to some Philadelphia locations that are notable in the history of chemistry.

L/L 053. General Chemistry Laboratory I. (C) Lab fee \$150.

A general laboratory course covering aspects of qualitative and quantitative analysis, determination of chemical and physical properties, and chemical synthesis.

L/L 054. General Chemistry Laboratory II. (C) Lab fee \$150.

Continuation of CHEM 053.

L/R 101. General Chemistry I. (C)

Physical World Sector. All classes.

Basic concepts and principles of chemistry and their applications in chemistry and closely-related fields. The first term emphasizes the understanding of chemical reactions through atomic and molecular structure. This is a university level course, treating the material in sufficient depth so that students can solve chemical problems and can understand the principles involved in their solution. It includes an introduction to condensed matter. This course is suitable for majors or non-majors and is recommended to satisfy either major or preprofessional requirements for general chemistry. This course is presented for students with high school chemistry and calculus. Students with a lesser background than this should take Chemistry 100.

L/R 102. General Chemistry II. (C)

Physical World Sector. All classes.

Prerequisite(s): CHEM 101.

Continuation of Chemistry 101. The second term stresses the thermodynamic approach to chemical reactions, electrochemical processes, and reaction rates and mechanisms. It includes special topics in chemistry.

L/R 115. Honors Chemistry I. (A)

Physical World Sector. All classes. Offered for freshman only.

An advanced course for students who have had AP Chemistry in high school. Included in the course coverage are: quantum mechanics of atoms, molecules and crystalline solids; statistical mechanics of gases, liquids, and solids; and coordination chemistry.

L/R 116. Honors Chemistry II. (B)

Physical World Sector. All classes.

Prerequisite(s): Advanced High School Chemistry (AP or equivalent).

An advanced course for students who have had very strong background in Chemistry in High School (AP, IB, or equivalent). Advanced material from the general

chemistry curriculum will be covered in the context topics selected from current research areas. A continuation of CHEM115, CHEM116 will focus on topics in biochemistry and biophysical chemistry relating to thermodynamics, equilibrium, kinetics, and electrochemistry.

L/R 221. Physical Chemistry I. (A)

Prerequisite(s): CHEM 102, MATH 114, PHYS 150.

Introductory quantum mechanics, atomic and molecular structure, chemical bonding, and microscopic understanding of physical and chemical properties of molecules.

L/R 222. Physical Chemistry II. (B)

Prerequisite(s): CHEM 221, PHYS 151.

Continuation of CHEM 221. Principles and applications of thermodynamics, and a molecular-based understanding of macroscopic properties.

L/L 223. Experimental Physical Chemistry I. (B)

Prerequisite(s): CHEM 221. Lab fee \$300.

Important methods, skills, and apparatus used for the acquisition and interpretation of quantitative information about chemical systems will be discussed in principle and used in the laboratory.

L/R 241. Principles of Organic Chemistry. (C) Prerequisite(s): CHEM 102.

Fundamental course in organic chemistry based upon the modern concepts of structure and mechanism of reactions.

L/R 242. Principles of Organic Chemistry II. (C) Prerequisite(s): CHEM 241.

Continuation of CHEM 241.

L/R 243. Organic Chemistry II: Principles of Organic Chemistry with applications in Chemical Biology. (B)

Dr. David Chenoweth & Dr. E. James Petersson. Prerequisite(s): CHEM 241.

This course is functionally equivalent to Chem 242 as the second term of introductory Organic Chemistry, placing the content in the context of biology and medicine. Topics include: 1) alkyl compounds, ethers, epoxides and sulfides in lipids; 2) carboxylic acids and amines in amino acids; 3) aromatic compounds and heterocycles in nucleic acids; and 4) ketones and aldehydes in carbohydrates. The synthesis and mechanism of action of pharmaceuticals that feature these functional groups will also be discussed. Additionally, Chem 243 makes use of 3D structure tutorials, recitation sections and

visits from biomedical scientists who make use of chemistry in their work.

L/L 245. Experimental Organic Chemistry I. (C) Prerequisite(s): CHEM 241. Corequisite(s): CHEM 242. Lab fee \$300.

A basic laboratory course in which both the theoretical and practical aspects of a variety of organic reactions and multistep syntheses are emphasized. Modern chromatographic, instrumental, and spectroscopic techniques are applied to experimental organic chemistry. Course should be taken concurrently with CHEM 242 or in the semester immediately following.

PLEASE NOTE THE FOLLOWING: For the Summer and LPS offering of CHEM 245, it is a 2-semester course. Part 1 is taken in the first term for 0.0 CU and then Part 2 is taken in the second term immediately following the first for 1.0 CU.

L/L 246. Advanced Synthesis and Spectroscopy Laboratory. (A) Prerequisite(s): CHEM 242 and 245. Corequisite(s): CHEM 261 should be taken concurrently or previously completed successfully. Lab fee \$300.

Advanced laboratory work on the synthesis, structure, and properties of organic and inorganic compounds. Infrared, ultraviolet, and nuclear magnetic resonance spectroscopy. Lectures cover the theoretical basis and applications of modern spectroscopic methods.

L/R 251. Principles of Biological Chemistry. (C) Prerequisite(s): CHEM 102 and 241. Corequisite(s): Chemistry 242 required.

Fundamentals of biological chemistry, including the structure of biological macromolecules and their mechanism of action, intermediary metabolism, and the chemical basis of information transfer. Course should be taken concurrently with Chem 242.

L/R 261. Inorganic Chemistry I. (A) Corequisite(s): CHEM 241 may be taken concurrently.

An introductory survey of the bonding, structure, and reactions of important metal and nonmetal compounds.

299. Directed Study and Seminar. (C) Prerequisite(s): Permission of undergraduate chairman.

Directed study projects and seminars as individuals or small groups under the supervision of a faculty member.

399. Independent Research. (C) Prerequisite(s): Permission of undergraduate chairman; a B average in chemistry, mathematics, and physics. Independent project under the direction of a faculty member.

441. Advanced Organic Chemistry: Reactions, Mechanisms, and Stereoelectronic Effects. (A) Prerequisite(s): CHEM 242.

Study of important types of reactions and functional groups, with emphasis on synthetic usefulness, mechanisms, and stereoelectronic principles.

443. Modern Organic Synthesis. (A) Prerequisite(s): CHEM 241 and 242.

Introduction to advanced organic synthesis. Study of important synthetic reactions including: oxidations, reductions, and methods for the formation of carbon-carbon bonds, with an emphasis in chemoselectivity, stereoselectivity and asymmetric synthesis. Survey of modern methods for the synthesis of small, medium and large ring systems. Analysis of modern synthetic strategies, with illustrative examples from total synthesis of natural and unnatural products.

451. Biological Chemistry I. (A) Prerequisite(s): CHEM 242, 221 (may be concurrent), and 251 or permission of instructor.

Structure, dynamics, and function of biological macromolecules. Properties of macromolecular assemblies, membranes and their compartments. (Formerly, CHEM 450-I).

452. Biological Chemistry II. (B) Prerequisite(s): CHEM 242, 221, and 251 or permission of instructor.

Physical and chemical description of macromolecular information transfer. Gene organization, replication, recombination, regulation and expression. (Formerly, CHEM 450-II).

462. Inorganic Chemistry II. (C) Prerequisite(s): CHEM 261 or its equivalent and permission of instructor.

A detailed treatment of the theory and application of modern physical methods for the elucidation of structure and mechanism in inorganic and organometallic chemistry. An introduction to symmetry and group theory is followed by the application of these concepts to vibrational and electronic spectroscopy of inorganic complexes. Magnetic resonance is discussed in detail, including topics such as EPR, fourier transform methods, dynamic systems, and 2-dimensional NMR.

495. (PHRM495) High Throughput Discovery: A Multidisciplinary Approach to Cancer. (B) Dr.'s Jeffrey Field, David Schultz, and Simon Berritt.

The newly developed massively parallel technologies have enabled the simultaneous analysis of many pathways. There are several large scale international efforts to probe the genetics and drug sensitivity of cancer cell lines. However, there are some rare cancers that have not been analyzed in depth. One of these rare cancers is malignant peripheral nerve sheet tumors (MPNST). MPNST, although a rare cancer, are common in patients with neurofibromatosis type. In the course, students will take part in a high throughput discovery effort in two phases. Phase 1 is a training phase, which will consist of quantitative profiling the sensitivity of MPNST cell lines to a library of >120 common and experimental cancer drugs. These will be conducted in the UPenn High Throughput Screening Core. (<http://www.med.upenn.edu/cores/High-ThroughputScreeningCore.shtml>). While we call this a training phase, the data from this will be subject to rigorous quality control for eventual publication and development of a public database for rare tumors.

Phase 2 is an independent research project. Examples of projects include, but are not limited to: Combinatorial screens (synthetic lethal); siRNA screens; novel compound screens; determining mechanisms of cell death; developing tools for data analysis and database development. During phase 2, students will also modify compounds of interest using the Penn Chemistry: Upenn/Merck High Throughput Experimentation Laboratory (<https://www.chem.upenn.edu/content/penn-chemistry-upennmerck-high-throughput-experimentation-laboratory>), and then retest them for activity to determine structure activity relationships. We will sponsor phase 2 projects relevant to neurofibromatosis. However, in phase two students can also research other areas if they develop sponsorships from professors. We expect the course to be a hypothesis engine that generates ideas for further research. Prerequisites include a strong foundation in biology and chemistry. Students will prepare an abstract proposal by week three on their phase 2 project, and a report, in scientific paper style, due on the last day of the semester.

521. Statistical Mechanics I. (A) Prerequisite(s): CHEM 222.

Principles of statistical mechanics with applications to systems of chemical interest.

522. Statistical Mechanics II. (B)

Prerequisite(s): CHEM 521.

A continuation of CHEM 521. The course will emphasize the statistical mechanical description of systems in condensed phases.

523. Quantum Chemistry I. (A)

Prerequisite(s): CHEM 222.

The principles of quantum theory and applications to atomic systems.

524. Quantum Chemistry II. (B)

Prerequisite(s): CHEM 523.

Approximate methods in quantum theory and applications to molecular systems.

525. Molecular Spectroscopy. (C)

A modern introduction to the theory of the interaction of radiation and matter and the practice of molecular spectroscopy. Conventional microwave, magnetic resonance, optical, photoelectron, double-resonance, and laser spectroscopic techniques will be included.

526. Chemical Dynamics. (B)

Theoretical and experimental aspects of important rate processes in chemistry.

555. (BMB 554) Macromolecular Crystallography: Methods and Applications. (A)

The first half of the course covers the principles and techniques of macromolecular structure determination using X-ray crystallography. The second half of the course covers extracting biological information from X-ray crystal structures with special emphasis on using structures reported in the recent literature and presented by the students.

557. Mechanisms of Biological Catalysis. (C)

Prerequisite(s): One year of organic chemistry and a biochemistry course, or permission of instructor.

Reaction mechanisms in biological (enzymes, abzymes, ribozymes) and biomimetic systems with emphasis on principles of catalysis, role of coenzymes, kinetics, and allosteric control.

559. (BMB 559) Biomolecular Imaging. (B)

This course considers the noninvasive, quantitative, and repetitive imaging of targeted macromolecules and biological processes in living cells and organisms. Imaging advances have arisen from new technologies, probe chemistry, molecular biology, and genomic information. This course covers the physical principles underlying many of the latest techniques, and defines experimental

parameters such as spatial and temporal resolution, gain, noise, and contrast.

Applications to cellular and in vivo imaging are highlighted for confocal, two-photon, and force microscopies; single-molecule, CARS, and fluorescence correlation spectroscopy; FRET and fluorescence bleaching; mass spectroscopy; MRI, PET and SPECT. The role of molecular imaging agents comprised of proteins, organic or inorganic materials is widely discussed.

564. Organometallics. (C)

This course is focused on molecular species that contain metal-carbon bonds, and the role of these compounds in catalytic processes and organic synthesis. Aspects of the synthesis, structure and reactivity of important classes of organometallic compounds such as metallo alkyl, aryl, alkene, alkylidene and alkylidene complexes are surveyed for the d and f block metals. Emphasis is placed on general patterns of reactivity and recurring themes for reaction mechanisms.

565. Main Group Chemistry. (C)

This course encompasses a comprehensive survey of the chemistry and properties of the p-block elements of the periodic table. Topics include syntheses, structures and reactivities of important compounds. In addition, alternative bonding theories which have been used to explain the unique properties of these compounds are critically examined.

567. (BMB 567) Bio-inorganic Chemistry. (C)

The course covers selected topics in bioinorganic chemistry; special emphasis is placed on dioxygen chemistry and electron transfer processes. Course topics include: (i) oxygen uptake and utilization; (ii) diatomic oxygen transport; (iii) diatomic and monoatomic oxygen incorporation into substrates; (iv) metalloenzyme-catalyzed C-C bond formation; (v) the metallobiochemistry of DNA; (vi) metal-sulfide proteins; (vii) manganese-containing metalloproteins; (viii) Photosystem II: light-driven electron transfer and the biological water-splitting reaction; (ix) biological electron transfer; (x) electron transfer theory; (xi) mechanisms of energy storage and release; and (xii) long-distance electron transfer reactions.

600. Tutorial Studies. (C)

Both terms. May be repeated for credit with permission of instructor.

Readings and discussion on various topics with various faculty members.

602. Proposal Writing for Chemists.

(A) Feng Gai.

652. Proposal writing for chemists.

(A)

721. Mathematics for Chemistry. (C)

J. SUBOTNIK.

This course examines the basic mathematics needed for physical chemistry, including (but not limited to) a brief review of linear algebra, Fourier transforms, delta functions, optimization, and the residue theorem. Depending on the year, selected other topics will also be included.

723. Dynamics of Polymers. (C)

Z. FAHKRAAI.

This course discussed the structure of polymers from a statistical physics point of view as well as dynamical response of polymeric systems such as mechanical response of polymer melts, polymer glass transition, properties of polymers in solutions, and properties of block copolymers and ionomers.

741. Spectroscopy. (C)

Prerequisite(s): CHEM 441 and CHEM 541.

The course will provide a continuation of material covered in Chemistry 441 and Chemistry 541, as well as spectroscopy of organic compounds focused mainly on NMR. Topics will include advanced organic mechanisms, electronic structure calculations of organic molecules related to their structure, reactivity, and spectroscopic properties, and Organic Spectroscopic methods for the determination of structure using NMR.

742. Medicinal Chemistry and Drug Design. (C)

DONNA HURYN.

This course focuses on concepts and strategies in medicinal chemistry, and how it is applied to modern drug discovery and development. Topics include the drug discovery process, drug targets (GPCR's, enzymes, channels etc.), physical chemistry of molecular interactions between drug and target, drug design, methods for hit and lead identification, lead optimization, chemical biology, natural products chemistry and combinatorial and diversity oriented synthesis. This course is geared to upper level undergraduate students in chemistry or biochemistry, and first year chemistry graduate students. A strong understanding of organic chemistry is required.

743. Heterocyclic Chemistry. (C)

M. JOULLIE.

The course deals with topics in Heterocyclic Chemistry. It covers

nitrogen-containing monocyclic hetero rings, examining the most recent syntheses, the reactions and their mechanisms. The course will focus on recent variations and improvements of known heterocycles as well as their synthetic utility. Students will be expected to read critically a recent article on heterocyclic chemistry and do a presentation to the class.

744. Bioinspired Synthesis. Methods, Tactics, and Strategies. (C) VIRGIL PERCEC.

This class will discuss selected topics related to Bioinspired synthesis, methods, tactics and strategies. Target molecules, methods and strategies are designed by using biological systems as models.

745. Total Synthesis. (C) AMOS B. SMITH III.

751. Chemical Biology. (C) EJ PETERSSON.

This course focuses on current topics in Chemical Biology, particularly experiments in which 1) chemical synthesis enables one to probe or control biological systems, or 2) manipulation of biological systems facilitates novel chemical syntheses. The course is broadly divided into two sections, one dealing with the study of individual proteins and nucleic acids, and one dealing with complex cellular systems. As the goal of the course is to familiarize students with innovative recent experimental approaches and to stimulate them to conceive of their own new methodology, students will be responsible for delivering presentations on topics selected from the literature, designing experiments to address currently unsolved problems in Chemical Biology (in take-home examinations), and generating several novel research proposal ideas, one of which will be elaborated into a full proposal.

761. Coordination Chemistry. (C) NEIL TOMSON.

Ligands have a remarkable ability to alter the properties of metal ions, and the study of this coordination chemistry underlies many modern advances in science, including energy harvesting and storage, chemical catalysis, and sustainability. This course explores the relationships between the identities of ligands and the physical manifestations that result from their binding to metal centers. Topics to be covered include: symmetry and chirality in molecular complexes, variations in coordination number, ligand field effects, recent advances in bonding theory, and inorganic reaction mechanisms.

762. X-ray I. (C) PATRICK CARROLL.

An introduction to the theory and practice of structure determination by X-ray crystallography. Topics discussed include point group and space group symmetry, structure factor theory, data collection methods and a survey of solution methods. The course culminates with a series of real-world structure determinations worked through in-class using the XSeed program package.

763. X-ray II. (C) PATRICK CARROLL. Prerequisite(s): CHEM 762.

Continuation of X-ray I course, CHEM 741

764. Materials Chemistry. (C) C. MURRAY.

765. Chemistry of the f-Block Elements. (C) ERIC SCHELTER.

The course encompasses the descriptive chemistry, and topics related to, the f-block including the rare earth metals and actinides. Coverage includes coordination chemistry and periodic trends, electronic structure and magnetism, and modern applications of f-block chemistry including lanthanide ions as spectroscopic probes, separations chemistry, materials chemistry and applications, organo-f-element

chemistry, the chemistry of the actinides and transactinides, and reactivity/catalysis with f-block compounds.

802. Chem Teaching Methods. (L)

999. Independent Study and Research. (C) May be taken for multiple course unit credit.

(1) Advanced study and research in various branches of chemistry. (2) Seminar in current chemical research. (3) Individual tutorial in advanced selected topics.

Undergraduate BIOCHEMISTRY Courses (BCHE)

299. Undergraduate Research Projects. (C) 10-20 h., 1-2 c.u., admission by permission of the biochemistry undergraduate chairman.

Independent Research.

300. Senior Research Projects. (C) 10-20 h., 1-2 c.u., admission by permission of the biochemistry undergraduate chairman.

SM 404. Biochemistry Laboratory. (E) Year long course --initial registration must occur in Fall term, 0 c.u. for first term and 2 c.u. for second term, 15h. CHEM 451 or permission of instructor required.

Participation in research projects in the laboratories of individual faculty members. A list of possible research supervisors is available in the Biochemistry office (351 Chemistry). In addition to their laboratory projects, students will attend a weekly seminar in which their own and related work will be discussed.

580. (PHYS580) Biological Physics. (C) Prerequisite(s): Physics 150-151 or 170-171, Math 104-114 or Math 104-115. Recommended: concurrent Physics 230 or prior Physics 250, basic background in chemistry and biology.

CINEMA STUDIES (AS) {CINE}

SM 014. (COML107, ITAL100) TOPICS: FRESHMAN SEMINAR. (C)

SM 061. (FNAR061, FNAR661, VLST061) Video I. (C) Staff. Course Fee \$75.00.

This course provides students with the introductory skills and concepts related to producing short works that explore the language of the moving image. Students will learn the basics of cinematography and editing through a series of assignments designed to facilitate the use of the medium for artistic inquiry, cultural expression and narrative storytelling, through both individual and group projects.

SM 062. (FNAR062, FNAR662) Video II. (C) Reynolds/Novack. Prerequisite(s): CINE 061 / FNAR 061. Course Fee \$75.00.

Video II offers opportunities to further explore the role of cinematic narrative technique, non-narrative forms, digital video cinematography, editing, and screen aesthetics. Through a series of several video projects and a variety of technical exercises, students will refine their ability to articulate technically and conceptually complex creative projects in digital cinema. In addition, one presentation on a contemporary issue related to the application of cinematic storytelling and/or the cultural context of digital video is required.

SM 063. (FNAR063, FNAR663) Documentary Video. (C) Reynolds. Prerequisite(s): CINE 061 / FNAR 061. Course Fee \$75.00.

Documentary Video is an intensive production course involving the exploration of concepts, techniques, concerns, and aesthetics of the short form documentary. Building on camera, sound, and editing skills acquired in Video I, students will produce a portfolio of short videos and one longer project over the course of the semester using advanced level camera and sound equipment. One short presentation on a genre, technique, maker, or contemporary concern selected by the student is required.

SM 065. (FNAR065, FNAR665) Cinema Production. (C) Mosley. Course Fee \$75.00.

This course focuses on the practices and theory of producing narrative based cinema. Members of the course will become the film crew and produce a short digital film. Workshops on producing,

directing, lighting, camera, sound and editing will build skills necessary for the hands-on production shoots. Visiting lecturers will critically discuss the individual roles of production in the context of the history of films.

074. (ENGL074) CONTEMP AMERICAN LIT. (M)

L/R 100. (COML117, ENGL101, GSWS101) STUDY OF AN AUTHOR. (C)

L/R 112. (COML245, ENGL102, GSWS102, PSYS102) Study of a Theme. (C) Arts & Letters Sector. All Classes. Staff.

This topic course explores multiple and different aspects of Cinema Studies. Specific course topics vary from year to year. See the Cinema Studies website at cinemastudies.sas.upenn.edu/courses for a description of the current offerings.

SM 116. (ENGL116) Screenwriting Workshop. (C) Kathy DeMarco Van Cleve.

This is a workshop-style course for those who have thought they had a terrific idea for a movie but didn't know where to begin. The class will focus on learning the basic tenets of classical dramatic structure and how this (ideally) will serve as the backbone for the screenplay of the aforementioned terrific idea. Each student should, by the end of the semester, have at least thirty pages of a screenplay completed. Classic and not-so-classic screenplays will be required reading for every class, and students will also become acquainted with how the business of selling and producing one's screenplay actually happens. Students will be admitted on the basis of an application by email briefly describing their interest in the course to the instructor.

SM 125. (COML127, GSWS125, RUSS125) Adultery Novel. (C) Arts & Letters Sector. All Classes. Staff. All readings and discussions in English.

The object of this course is to analyze narratives of adultery from Shakespeare to the present and to develop a vocabulary for thinking critically about the literary conventions and social values that inform them. Many of the themes (of desire, transgression, suspicion, discovery) at the heart of these stories also lie at the core of many modern narratives. Is there anything special, we will ask, about the case of adultery--once called "a crime which contains within itself all others"? What might these stories teach us about the way

we read in general? By supplementing classic literary accounts by Shakespeare, Pushkin, Flaubert, Chekhov, and Proust with films and with critical analyses, we will analyze the possibilities and limitations of the different genres and forms under discussion, including novels, films, short stories, and theatre. What can these forms show us (or not show us) about desire, gender, family and social obligation?

Through supplementary readings and class discussions, we will apply a range of critical approaches to place these narratives of adultery in a social and literary context, including formal analyses of narrative and style, feminist criticism, Marxist and sociological analyses of the family, and psychoanalytic understandings of desire and family life.

SM 131. (THAR130) INTRO LIGHT, SET,COSTUME. (C)

160. (ENGL061) British Cinema. (M) Beckman. Penn-in-London.

François Truffaut once famously suggested that there was a certain incompatibility between the terms cinema and Britain; Satyajit Ray declared, I do not think the British are temperamentally equipped to make the best use of the movie camera; and throughout the history of film criticism, British cinema has been condemned for its theatrical style, lack of emotion, imitation of Hollywood and/or European cinema, and failure to achieve a national character. Yet in spite of this history of dismissal, British cinema has a long and complex history that we will begin to explore through film screenings, critical reading, and visits to archives and museums. Topics covered will include: Early Cinema of Attractions; British cinema's relation to other countries; war propaganda and the British documentary film; cinematic adaptations of British literature; British film theory; British experimental film/moving images in the art gallery; British cinema and identity. Requirements: attendance at screenings/discussions/trips; final paper; film journal.

164. (EEUR164, RUSS164) Russian Film 1900-1945. (M) Todorov.

This course presents the Russian contribution to world cinema before WWII - nationalization of the film industry in post revolutionary Russia, the creation of institutions of higher education in filmmaking, film theory, experimentation with the cinematic language, and the social and political reflex of cinema. Major themes and issues involve: the invention of montage, Kuleshov effect, the means of visual propaganda and the cinematic

component to the communist cultural revolutions, party ideology and practices of social-engineering, cinematic response to the emergence of the totalitarian state. Great filmmaker and theorist in discussion include Vertov, Kuleshov, Eisenstein, Pudovkin, Medvedkin and others.

165. (EEUR165, RUSS165) Russian and East European Film After WWII. (M) Todorov.

This course examines the Russian and East European contribution to world cinema after WWII - Stalinist aesthetics and desalinization, WWII in film, the installation of totalitarianism in Eastern Europe and the Cold War in film, the fall of the Berlin Wall, the collapse of the Soviet Union and the post-soviet condition, cinematic representations of Yugoslavia's violent breakup; the new Romanian waive. Major filmmakers in discussion include Kalatozov, Tarkovsky, Wajda, Polanski, Forman, Mentzel, Sabo, Kusturitsa, Konchalovsky, Mikhalkov and others.

L/R 167. (HIST165) HOLLYWOOD & AMER HISTORY. (C)

SM 201. (ARTH391, COML201, ENGL291) Topics in Film History. (M) Staff.

This topic course explores aspects of Film History intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.

SM 202. (ARTH289, COML292, ENGL292, SAST212) Topics in Film Studies. (M) Staff.

This topic course explores aspects of Film Practice intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.

203. (COMM140, COMM240) Film, Form, and Context. (C) Messaris.

Movies as a form of audio-visual communication: their formal language, their relationship to other means of communication (music, stories, theater, pictures), their place in the media industry, their role in culture.

204. (COMM262) Visual Communication. (C) Messaris.

Examination of the structure and effects of visual media (film, television, advertising, and other kinds of pictures).

SM 206. (COML206, ITAL204) Italian History on Screen. (C) Arts & Letters Sector. All Classes. Veneziano.

How has our image of Italy arrived to us? Where does the story begin and who has recounted, rewritten, and rearranged it over the centuries? In this course, we will study Italy's rich and complex past and present. We will carefully read literary and historical texts and thoughtfully watch films in order to attain an understanding of Italy that is as varied and multifaceted as the country itself. Group work, discussions and readings will allow us to examine the problems and trends in the political, cultural and social history from ancient Rome to today. We will focus on: the Roman Empire, Middle Ages, Renaissance, Unification, Turn of the Century, Fascist era, World War II, post-war and contemporary Italy.

SM 210. (AFRC231, AFST231, FREN231) Topics in Narrative Cinema. (M) Met.

This topic course explores aspects of Film Narrative intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.

SM 213. (ITAL213) CONTEMP ITALY THRU FILM. (M)

220. (EALC125) 20th Century Chinese Literature & Film. (B) Arts & Letters Sector. All Classes. Wang.

This course serves as a thematic introduction to modern Chinese literature and cinema in mainland China, Taiwan, Hong Kong, and transnational Chinese communities in the twentieth century. By discussing a wide range of key literary and filmic texts, this class looks into major issues and discourses in China's century of modernization: enlightenment and revolution, politics and aesthetics, sentimental education and nationalism, historical trauma and violence, gender and sexuality, social hygiene and body politics, diaspora and displacement, youth sub-culture and urban imagination.

SM 225. (THAR273, THAR275) Topics Theatre & Cinema. (M) Staff.

This topic course explores aspects of Film and Theater intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.

SM 232. (LALS240, PRTG240, SPAN223) Topics in Brazilian Culture. (M) Flannery.

L/R 244. (COML254, GRMN244) METROPOLIS:CULTR OF CITY. (M)

L/R 245. (FREN230) French Cinema. (A) Met.

This topic course explores aspects of French Cinema. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.

SM 250. (RUSS250) German Cinema. (M) Richter, MacLeod.

This topic course explores aspects of German Cinema. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.

258. (COML270, GRMN258) GERMAN CINEMA. (M)

259. (COML261, GRMN259) TOPICS GERMAN CINEMA. (M)

SM 263. (ARTH301, ENGL263) Mixed Media Animation. (M) Mosley.

This animation course fuses hands-on studio drawing, modeling and cinematic processes with digital tools. Real world techniques such as stop-motion, clay animation, hand-drawn and multi-plane animation will be practiced in the studio. Other techniques, such as keyframe animation, editing and blue-screen composition compositing will be practiced in the digital labs. Both production teams and individuals will create short mixed-media animations in form, material and time.

SM 266. (ENGL266) TOPICS LAW & LITERATURE. (M)

SM 271. (ENGL274, THAR271) American Musical Theatre. (M)

SM 272. (ASAM202, ENGL272) Asian-American Literature and Film. (M) Staff.

This topic course explores aspects of Asian-American Literature and Cinema intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu/> for a description of the current offerings.

279. (COML265, ENGL279, GRMN261, JWST261) JEWISH FILM & LIT.

SM 282. (ANTH282, ENGL282, RELS208) NATIVE AMERICAN REL/LIT. (M)

SM 295. (AFRC296, ARTH293, COML295, ENGL295, SAST296) Topics in Cultural Studies. (M) Decherney.

This topic course explores aspects of Film Cultural Studies intensively. Specific course topics vary from year to year. See the Cinema Studies website at <<http://cinemastudies.sas.upenn.edu/>> for a description of the current offerings.

SM 300. (COML300, ITAL300) Topics in Italian History, Literature, and Culture. (M) STAFF.

This topic course explores aspects of Film in others arts intensively. Specific course topics vary from year to year. See the Cinema Studies website at <<http://cinemastudies.sas.upenn.edu/>> for a description of the current offerings.

SM 301. (FREN301, GSWS301) FRENCH IDENTITY. (C)

SM 340. (COML280, ITAL322) Italian Cinema. (M) Benini.

This topic course explores multiple and different aspects of Italian Cinema. Specific course topics vary from year to year. See the Cinema Studies website at <<http://cinemastudies.sas.upenn.edu/>> for a description of the current offerings.

SM 350. (AFRC349, ARTH301, COML351, ENGL295) Topics in Spanish Culture and Film. (M) Staff.

This topic course explores aspects of Spanish Culture and Film. Specific course topics vary from year to year. See the Cinema Studies website at <<http://cinemastudies.sas.upenn.edu/>> for a description of the current offerings.

L/R 352. (COML241, GRMN256, RELS236, RUSS188) Devil's Pact Literature and Film. (C) Arts & Letters Sector. All Classes. Richter.

For centuries the pact with the devil has signified humankind's desire to surpass the limits of human knowledge and power. From the reformation chap book to the rock lyrics of Randy Newman's Faust, from Marlowe and Goethe to key Hollywood films, the legend of the devil's pact continues to be useful for exploring our fascination with forbidden powers.

SM 359. (COLL227, COML359, HEBR359, HEBR659, JWST359) Seminar in Modern Hebrew Literature and Film. (B) Gold.

This topic course explores aspects of Modern Hebrew Literature and Film. Specific course topics vary from semester to semester. See the Cinema Studies website at <<http://cinemastudies.sas.upenn.edu/>> for a description of the current offerings.

SM 370. (AFRC400) Blacks in American Film and Television. (C) Bogle.

An examination and analysis of the changing images and achievements of African Americans in motion pictures and television. The first half of the course focuses on African-American film images from the early years of D.W. Griffith's "renegade bucks" in *The Birth of a Nation* (1915); to the comic servants played by Steppin Fetchit, Hattie McDaniel, and others during the Depression era; to the post-World War II New Negro heroes and heroines of *Pinky* (1949) and *The Defiant Ones* (1958); to the rise of the new movement of African American directors such as Spike Lee (*Do the Right Thing*), Julie Dash (*Daughters of the Dust*), Charles Burnett, (*To Sleep With Anger*) and John Singleton (*Boyz N the Hood*). The second half explores television images from the early sitcoms "Amos 'n Andy" and "Beulah" to the "Cosby Show," "Fresh Prince of Bel Air," and "Martin." Foremost this course will examine Black stereotypes in American films and television--and the manner in which those stereotypes have reflected national attitudes and outlooks during various historical periods.

This course will also explore the unique "personal statements" and the sometimes controversial "star personas" of such screen artists as Sidney Poitier, Dorothy Dandridge, Paul Robeson, Richard Pryor, Oscar Micheaux, Spike Lee, Bill Cosby, Eddie Murphy, and Whoopi Goldberg. The in-class screenings and discussions will include such films as *Show Boat* (1936), the independently produced "race movies" of the 1930s and 1940s, *Cabin in the Sky* (1943), *The Defiant Ones* (1958), *Imitation of Life* (the 1959 remake), *Super Fly* (1972), and *She's Gotta Have It* (1986) and such television series as "I Spy," "Julia," "Good Times," "The Jeffersons," "Roots," "A Different World," "I'll Fly Away," "LA Law," and "Hangin' With Mr. Cooper."

L/R 382. (COML372, FREN382) Horror Cinema. (C) Met. The course will be taught in English. French credit by arrangement with Instructor.

The purpose of this course is to provide an introduction to the history and main themes of the supernatural/horror film from a comparative perspective. Films considered will include: the German expressionists masterworks of the silent era, the Universal classics of the 30's and the low-budget horror films produced by Val Lewton in the 40's for RKO in the US, the 1950's color films of sex and violence by Hammer studios in England, Italian Gothic horror or giallo (Mario Brava) and French lyrical macabre (Georges Franju) in the 60's, and on to contemporary gore. In an effort to better understand how the horror film makes us confront our worst fears and our most secret desires alike, we will look at the genre's main iconic figures (Frankenstein, Dracula, Dr. Jekyll and Mr. Hyde, etc.) as well as issues of ethics, gender, sexuality, violence, spectatorship through a variety of critical lenses (psychoanalysis, socio-historical and cultural context, aesthetics,...).

SM 384. (SPAN384) Spanish Lit/Film. (M)

L/R 386. (FREN386) PARIS IN FILM. (M)

SM 387. (COML384, ITAL384) HOLOCST ITAL LIT & FILM. (M)

SM 392. (AFRC392, ARTH389, COML391, ENGL392, SLAV392) Topics in Cinema Studies. (M) Corrigan.

This topic course explores aspects of Cinema Studies intensively. Specific course topics vary from year to year. See the Cinema Studies website at <<http://cinemastudies.sas.upenn.edu/>> for a description of the current offerings.

SM 395. (FREN395) TOPICS IN AFRICAN LIT. (M)

504. (COMM562) Out of Hollywood: Literature to Film. (B) Shawcross.

Since the beginnings of the motion picture industry, producers and directors have drawn from existing literary works for adaptation to the "big screen." The past decade has proven to be no exception. We will explore several screen adaptations from the recent past and consider the artistic challenges, the financial compromises, and the technical realities of translation from one medium to another, as well as the motivations behind these film

adaptations. Films may include **The Age of Innocence** (1993), **Smoke** (1994), **Clueless** (1995), **Emma** (1996), *Trainspotting** (1996), **Fight Club** (1996), **L.A. Confidential** (1997), **Out of Sight** (1998), and **Bridget Jones's Diary** (2001). Listed films are based on: Edith Wharton's **The Age of Innocence** (1920), Paul Auster's *"Auggie Wren's Christmas Story"* (1992), Jane Austen's **Emma** (1816), Irvine Welsh's **Trainspotting** (1993), Chuck Palahniuk's **Fight Club** (1996), James Ellroy's **L. A. Confidential** (1990), Elmore Leonard's **Out of Sight** (1996), Helen Fielding's **Bridget Jones's Diary** (1996), and Jane Austen's **Pride and Prejudice** (1813).

SM 530. (AFRC526, ARTH504, COML529, ENGL570) BLACK CINEMAS. (M)

SM 550. (COML552, GRMN550) Topics in German Cinema. (K) Staff.

This graduate topic course explores aspects of German Cinema intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu> for a description of the current offerings.

SM 572. (AFRC572, COML575, ENGL572) TOPICS IN AFRICAN LIT. (M)

SM 592. (COML581, COML592, ENGL592) 20th Century Lit & Theory. (M)

SM 595. (ENGL595) Copyright and Culture. (M) Decherney.

This graduate topic course explores aspects of copyright in Cinema Studies. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu> for a description of the current offerings.

599. Independent Study. (C)

SM 611. (FREN611) TOPICS IN CINEMA STUDIES. (M)

SM 619. (COMM619) The Politics and Practices of Representation. Sender.

This course engages with the following question from both theoretical and practical perspectives: Who says what about whom, under what circumstances, in which medium, with what effects? We will spend

the first two thirds of the semester investigating different approaches to this question, looking at insider accounts, processes of othering, realism and other narrative conventions, the ethics of consent, "objective" and "biased" shooting techniques, the politics of editing, the role of the intended audience in the production of a work, and so on. We will simultaneously cover the technical aspects of production that will enable you to produce digital video projects: shooting (Canon GL1s), lighting, sound, editing (Final Cut Pro on Mac), graphics, music, and so on. During the final third of the semester all students will produce short (5-10 minute) documentary and/or experimental digital videos.

SM 680. (COML595, FREN680) French Cinema. (M) Met.

This graduate topic course explores aspects of French Cinema intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu> for a description of the current offerings.

SM 694. (LALS694, SPAN694) Mexican Cinema. (M) Staff.

This seminar will address the specificity and uniqueness of Spanish America's cultural production, that is, those elements that make the Spanish American case differ from the paradigmatic postcolonial situation, and which make recent developments in postcolonial studies not fully applicable to it. We will explore these issues in the context of the literary production of the twentieth century in Spanish America from roughly the twenties to the present, that is, the epoch encompassing the larger metropolitan cultural phenomena of Modernism and Postmodernism.

SM 793. (ARTH793, ENGL797, GSWS793) Topics in Cinema and Media. (M) Staff.

Topic varies.

SM 796. (ARTH796, ENGL778) TOPICS IN CONTEMP ART. (M)

SM 842. (ANTH842, COMM842) The Filmic. (C) Jackson.

This interdisciplinary graduate course takes "film" as its object of study, theorizing it as a medium/mode of representation. We

draw on film theory, psychoanalysis, literary analysis, cognitive theory, communication studies, and visual anthropology to discuss several key issues related to the state of film/filmmaking in an age of "digital" media. We interrogate contentious notions of authority, reflexivity, and objectivity. We analyze film's claim to "realistic" (iconic and indexical) representation. We interrogate how "film" and "video" get imagined in all their visual particularity, sometimes conflated into a single visual form and at other moments distinguished as a function of the difference between photochemical and electro-magnetic processes. We also highlight the kinds of techniques filmmakers use to thematize these same issues "on screen." Students will be responsible for watching one film each week (along with the the course readings), and part of the final project involves helping to produce a group documentary/ethnographic "film" that engages the course's central concerns.

SM 846. (COMM846) Ordinary People and the Media: The Demotic Turn.

This course will explore the proposition that we are witnessing a 'demotic turn' in media culture: the development of a broader, possibly even a new, field of relations between media and culture in which the participation of ordinary people has become a more fundamental component than ever before. Rather than necessarily signifying the rise of a democratic politics or a process of media democratization, the politics of that participation are contingent and instantiated rather than determined in advance. The course will explore how this politics of participation actually plays out in a range of contemporary media 'hot spots' - reality television, user-generated content online, debates about the future of journalism in an online environment heavily populated by bloggers and citizen journalists, the connection between the commodification of celebrity and the construction of social identities, utopian and dystopian readings of the potential of new media, and populist formations of talk radio.

899. Independent Study. (M)

CITY AND REGIONAL PLANNING (FA) {CPLN}

SM 300. The Making of Modern Paris. (B) Birch.

Paris, Ville-Lumiere, has long been renowned for its urbanity, architecture, and city design. This class will trace the people, ideas, and projects that contributed to this reputation, through an exploration of the city's built environment as expressed in literature and urban planning projects of the 19th and 20th centuries. Literary readings, including texts by Hugo, Baudelaire, Zola, and Breton, will be studied in conjunction with historical writings and projects ranging from works by Napoleon III and Haussmann to Mitterrand and Sarkozy. The course includes a field trip to France's capital city during Penn's Spring Break. Co-taught by Professors Eugenie Birch (Department of City and Regional Planning) and Andrea Goulet (Department of Romance Languages). Student travel expenses will be subsidized by the Mellon Foundation-sponsored Humanities + Urbanism + Design Project.

L/R 500. (URBS440) Introduction to City Planning: Past, Present and Future. (A) Vitiello or Ammon.

Orientation to the profession, tracing the evolution of city and regional planning from its late nineteenth century roots to its twentieth century expression. Field trips included.

501. Quantitative Planning Analysis Methods. (D) Guerra.

Introduction of methods in analyzing demographic conditions, land use and housing trends, employment and business changes, community and neighborhood development. Focus on using spreadsheet models and data analysis for local and neighborhood planning.

502. Urban Redevelopment and Infrastructure Finance. (B) Angelides.

Introduces students to the economic principles and vocabularies that city and regional planners rely on (those of welfare and public sector economics, land economics, and the economics of housing and neighborhoods), and familiarizes them with local government taxation, budgeting and borrowing practice.

503. (MUSA503) Modeling Geographical Objects. (A) Tomlin or Hillier.

This course offers a broad and practical introduction to the acquisition, storage, retrieval, maintenance, use, and presentation of digital cartographic data with vector-oriented (i.e. drawing-based) geographic information systems (GIS) for a variety of environmental science, planning, and management applications. Previous experience in GIS is not required.

504. Site Planning. (B) Page.

This course introduces students to the practice of site planning. Skills and methods examined in the course include observation of the physical and community environment; physical and environmental site inventorying and analysis; analysis of alternative site programming and uses; site design processes and strategy; and the creation of site plans and development standards. Methods of community participation and collaboration with other disciplines will be explored. The spring version of this course differs from the fall version in its orientation toward urban designers and/or those with prior design backgrounds and skills.

505. Planning by Numbers. (B) Ryerson.

This class emphasizes the theory, practice, and use of statistics as applied to planning and policy problems and data. Starting with a review of basic descriptive statistics and measures of association, this course will introduce students to the regression techniques, including multiple regression analysis and logistical and probabilistic models for categorical data; data mining techniques, measures of spatial autocorrelation, and time-series modeling; and causal inference techniques, including structural equation modeling (SEM). A basic familiarity with descriptive and inferential statistics at the upper-division undergraduate level is expected at the beginning of the class. This course uses the popular, free, and open source statistical software R. Meets methods breadth requirement.

506. Negotiation and Conflict Resolution. (B) Sokoloff.

This course is designed to introduce graduate students to the theory and practice of negotiation, conflict resolution and community engagement. We will start by looking at basic approaches to interpersonal negotiation and then move to considering contemporary approaches to understanding and addressing public disputes using negotiation, facilitation and public

involvement. Design professionals - architects, construction managers, planners and others - face a variety of kinds of problems and challenges in their work. Some problems and challenges, whether simple or complex, are amenable to technical solutions based solely on the expertise of planners, managers, architects and others. There are, however, other problems and challenges that require adaptive work, primarily because technical expertise alone is insufficient to address the problems or challenges being faced. In this course, we'll focus on perspectives and methods for working through those later sorts of problems and challenges. Meets methods breadth requirement.

507. Urban Design Research Methods. (A) Al.

This seminar focuses on professional and research techniques in the practice of urban design. Seminar topics in the first half will examine research methods associated with measuring, analyzing and guiding design in urban contexts, including: environmental behavior & psychology, cognition, mapping, morphology, design regulation and policy. The second half of the course includes professional techniques in: communication, self-representation, design roles, processes, and ethics.

509. Law of Planning and Urban Development. (B) Keene.

The central focus will be on selected aspects of the field of the law of planning and development, a field that embraces a range of legal doctrines that are particularly relevant to cities and suburbs. We will study the principles that govern the regulation of land use and management of urban growth (through land use controls and other techniques for regulating new development) and, to a limited extent, environmental planning laws.

L/R 510. Urban and Planning Theory. (A) Landis.

Exploration of the representational tasks related to planning cities and regions. Review of the construction, management and reconciliation of contesting images.

520. Introduction to Community and Economic Development. (B) Staff.

Introduction to the theories and practices of urban economic and community development with a focus on improving opportunity and quality of life in low-income communities. Provides foundation for advanced courses in real estate and economic development finance, housing policy, downtown and neighborhood

revitalization, workforce development and metropolitan regional development.

SM 528. (URBS428) Research Seminar 21st Century Urbanism. (B) Staff.

530. Introduction to Land Use Planning. (A) Daniels.

Exploration of the methods and tools for managing land use and shaping the built environment. Presents how to create a successful Comprehensive Plan, Zoning Ordinance, Subdivision Regulations, Capital Improvements Program, and design guidelines. Also, presents functional area, regional, and state-level plans.

531. Introduction to Environmental Planning & Policy. (A) Daniels.

Overview of federal programs for protecting air quality, water quality, and endangered species along with managing climate change, solid waste, toxics, energy, transportation, and remediating brownfields in an overall sustainability framework. State-level, local government, and NGO efforts to protect the environment are also explored as are green infrastructure and green cities.

SM 535. (ENMG503) Topics in Energy Policy. Staff.

This research seminar focuses on changing energy policy topics that provide students with a deep examination of an aspect of energy technology, markets, or regulation and an opportunity for research on an emerging issue related to the topic. The seminar meets weekly to discuss the relevant literature and workshop student research projects.

540. Introduction to Property Development. (A) Staff.

This course is designed to acquaint students with the fundamental skills and techniques of real estate property development. It is designed as a first course for anyone interested in how to be a developer, and as a foundation for further courses in urban development and real estate.

550. Introduction to Transportation Planning. (A) Guerra.

Survey of the technological and design aspects of urban transportation systems and land use patterns. Covers facilities operations, congestion, environmental concerns and policy debates revolving around mobility issues at the federal, state, and metropolitan levels.

SM 560. Introduction to Graphics for Urban Design. (B) Fogelson.

This course introduces students to visual literacy and the use of a variety of software packages. Through a series of assignments and in class discussions participants develop a visual vocabulary and skills to function in and between AutoCAD, Adobe Creative Suite, and 3D modeling software.

590. (MUSA507) Spatial Analysis for Urban and Environmental Planning. (A) Steif. Prerequisite(s): MUSA 501 or CPLN 503 or equivalent.

This course builds on prior knowledge of GIS and basic statistics to help students to develop GIS and spatial analysis applications for use in urban and environmental planning and management. Each weekly session will focus on a particular analytical approach (e.g., buffering, geo-processing, map algebra, network analysis) as applied to a particular urban or environmental planning task (e.g., identification of development opportunities, prioritizing conservation lands, urban growth modeling, housing price modeling). The format of the class includes weekly lectures/in-class demos; and weekly homework assignments. The course will make extensive use of ArcGIS and associate Extensions, especially Spatial Analyst, Network Analyst, and Business Analyst. One-year student versions of ArcGIS and ArcGIS extensions will be available free of charge at the City Planning Office. ArcGIS runs best on Windows machines; those with Macs will need to install a Windows emulator.

600. Planning Workshop. (B) Landis.

Application of planning skills (including community inventorying and reconnaissance, goal articulation; alternatives creation and analysis, and plan development and implementation) to community plan creation. Students work in groups of seven to eight students each. Juried presentation required.

620. Techniques of Urban Economic Development. (B) Staff.

This course is about how planners act to catalyze and support economic well-being in cities and regions. Students in the course examine the effectiveness of alternative strategies and approaches to economic development and practice a variety of specific economic development policy and finance techniques. The semester is divided into three modules. In part one, students build knowledge about how theories of growth, specialization, agglomeration and innovation inform (and fail to inform) economic development

strategies. In part two, they develop a working understanding of economic development finance, completing exercises on tax increment finance, tax-credit financed development and "double bottom line" lending and equity investment. In part three, they review best practices in the formulation and negotiation of location incentives and subsidies, examine "growth with equity" policies, and explore the technical and political details of economic impact analysis.

621. Metropolitan Food System. (B) Vitiello.

This course introduces students to the planning and development of metropolitan food systems. Major topics include regional planning and policy; sustainable agriculture; food access and distribution; and markets. The class includes a mix of lectures, discussion, and field trips; and students will work on real-world projects in Philadelphia. Ultimately, the course aims to develop students' broad knowledge of food systems planning in the global North and South, with an emphasis on community and economic development strategies for sustainable food systems and food security.

622. (PUBH515) Community Development and Public Health. (B) Hillier.

This course will focus on the intersection of city planning and public health by looking closely at the role of the built environment in health. We will cover such topics as food access, physical activity, walkability, bike-ability, air quality, water quality, community engagement, outdoor media and health communication. We will learn how to conduct Health Impact Assessments (HIA) - screening, scoping, assessments, recommendations, reporting, and monitoring - and to use various environmental audit tools to measure the built environment. Our final projects will involve working with local government and nonprofit agencies to conduct applied health research projects.

625. (GAFL569, URBS451) Housing & Community Development Policy. Kromer.

This course offers an exploration of how legislative action, government policymaking, and citizen advocacy influence plans for the investment of public capital in distressed urban neighborhoods. Course topics this semester will include an evaluation of the results of City of Philadelphia development policies under the administration of former Mayor Michael A. Nutter, as well as consideration of plans being undertaken by the

administration of Mayor James F. Kenney, who took office in January. The course will also include an assessment of a large-scale property acquisition and development strategy being implemented by the Philadelphia Housing Authority in North Philadelphia and a review of recent and current reinvestment proposals for Camden's waterfront and downtown-area neighborhoods.

630. Innovations in Growth Management. (B) Staff. Prerequisite(s): CPLN 530 or CPLN 531.

The US population is expected to grow by more than 85 million from now to 2050. This course evaluates the tools and techniques for managing growth in America, especially to control sprawl in metropolitan regions. The course analyzes the form and functions of the central cities, suburbs, edge cities, ex-urbs, and megaregions. Federal, state, and local programs that influence metro change are evaluated. Regional planning approaches are analyzed in case studies.

631. Planning for Land Conservation. (B) Daniels.

Land preservation is one of the most powerful, yet least understood planning tools for managing growth and protecting the environment. This course provides an introduction to the tools and methods for preserving private lands by government agencies and private non-profit organizations (e.g., land trusts). Topics include purchase and donation of development rights (also known as conservation easements), transfer of development rights, land acquisition, limited development, and the preservation of urban greenways, trails, and parks. Preservation examples analyzed: open space and scenic areas, farmland, forestland, battlefields, and natural areas.

632. (LARP741) Modeling Geographic Space. (B) Tomlin.

The major objective of this course is to explore the nature and use of image-based (as opposed to drawing-based) geographic information systems (GIS) for the analysis and synthesis of spatial patterns and processes. This course is open to all. Previous experience in GIS is not required.

633. Ecological Principles for Planners. (B) Hewitt.

This course will provide an overview of ecology and the environmental sciences, focusing on issues important to practicing land use and environmental planners. It will combine both lectures and on-site practical experience. The latter will

entail analyses of basic environmental factors, including soils, water and biodiversity. Topics to be covered will include species taxonomy and biodiversity, population and community ecology, ecosystem energetics, soil structure and function, nutrient movement, hydrology, plant ecology and physiology, and animal ecology.

641. Progressive Development. (B) Landis. Prerequisite(s): CPLN 540 or REAL 821.

Using a lecture/guest lecture/case study approach, this course will teach students how to plan, develop, and finance a variety of progressive real estate development forms including affordable housing; infill, mixed-use and brownfield development transit-oriented development; green and LEED-certified office and housing development; historic preservation projects; public-private partnerships; and suburban retrofit and master-planned-community development. In each case, we will consider site acquisition, entitlement, market and marketing conditions, financing options, ownership and deal structures, ongoing operation and asset management issues; and connections to the community. Sessions will include lectures as well as case study presentations by guest developers and students.

642. (GAFL642) Downtown Development. (A) Levy.

The course will provide an overview of the changing role of downtowns and commercial centers, how and why they have evolved, diversified and been redeveloped and who are the various public and private actors that are helping them reposition themselves in a new regional and global context. There will be a strong focus on implementation, on how things get done, on the role of business improvement districts, not-for-profit development corporations and local government in the United States, Canada and a few international cities.

643. (ARCH762) Design and Development. (B) Sehnert.

This newly reconstituted course will introduce designers and planners to practical methods of design and development for major real estate product types. Topics will include product archetypes, site selection and obtaining entitlements, basic site planning, programming, and conceptual and basic design principles. Project types will include, among others; infill and suburban office parks, all retail forms, campus and institutional projects. Two-person teams of

developers and architects will present and discuss actual development projects.

650. (ESE 548) Transportation Planning Methods. (B) Ryerson. Prerequisite(s): CPLN 505 or other planning statistics course.

This course introduces students to the development and uses of the 4-step urban transportation model (trip generation-trip distribution-mode choice-traffic assignment) for community and metropolitan mobility planning. Using the VISUM transportation desktop planning package, students will learn how to build and test their own models, apply them to real projects, and critique the results.

651. Public Infrastructure & Finance. (A) Angelides.

This class is designed to help you develop the analytical skills necessary to understand and tackle common infrastructure problems in cities around the world, by emphasizing simple but key calculations that will help you focus on the key issues in each system, such as estimating system costs, capacity, and congestion. The first half of the class will focus on planning and engineering issues for systems for water, energy, telecommunications and large-scale transportation infrastructure such as ports and airports, but the overall emphasis will be on developing skills and tools applicable to any system. The second half of the class will focus on financing mechanisms, such as the size and structure of government investment, authority financing mechanisms, user fees, and public-private partnerships.

SM 652. Regional Infrastructure Seminar. (B) Yaro.

654. Urban Transit Systems and Technology. (B) Guerra.

This is a graduate-level planning class exploring transit planning practice. The goals of this class are to develop, organize and understand transit related planning issues, and conduct research. The class will emphasize the practice of transit planning, methods, problem definition and problem solving, the collection and manipulation of data to take the greatest advantage of available local and regional resources. Local and regional studies and projects will be used to illustrate the actual work done by transit practitioners to the greatest extent possible. There will also be emphasis on how a transit planner in many different roles will approach their respective jobs.

655. Multimodal Transport. (B)
Guerra.

The purpose of this course is to explore contemporary multimodal transportation systems, policy, planning, and practice through a series of comparative international case studies. Topics include innovative parking management in San Francisco, congestion charging in London, Metro investments in Mexico City, informal transportation in Indonesia, Bus Rapid Transit in Bogota, and bicycle infrastructure investments in Copenhagen. The course will also include one or more site visits to innovative multimodal transportation projects in the Philadelphia or New York City regions. By analyzing contemporary planning challenges and best practices, students will develop a better understanding of how the transportation system works and how to design and employ specific multimodal interventions and policies effectively.

660. (LARP660) Fundamentals of Urban Design. (B) Al.

This course is a requirement for students enrolled in Certificate in Urban Design and for Master of City Planning students enrolled in the Urban Design concentration. How should urban designers give shape to the city? What urban design methods could they apply? This course helps students acquire the principles that can inform urban design practice. It has three major pedagogical objectives. First, it helps students understand the contemporary city through a series of urban design tools. Second, it covers both historical and modern urban design principles. Finally, it includes all the scales in which urban designers operate, ranging from the fundamentals of social interaction in public space, to the sustainability of the region." This course is open to other interested PennDesign students if there is space and with permission of the instructor.

SM 670. (LARP743) Geospatial Software Design. (A) Tomlin.

The purpose of this course is to equip students with a selected set of advanced tools and techniques for the development and customization of geospatial data-processing capabilities. It is open to any student with experience equivalent to that of an entry-level class on GIS.

671. (MUSA500) Big Urban Data Analysis. (A) Brusilovskiy.

This course, co-listed with MUSA 501, will introduce graduate planning students to the use of large, spatially-explicit datasets for addressing urban planning and management problems. Among the topics to be

included: (1) Real-time data acquisition using web-based and sensing technologies; (2) Data cleaning and organization using the R programming language; (3) Data visualization and exploratory analysis in R; (3) Predictive and causal modeling techniques using large datasets in R; (4) Use of statistical data reduction and machine learning techniques with big data; (5) Derivation and use of spatial autocorrelation and other spatial patterning metrics in urban planning applications of big data; (6) Heuristic visualization of analytical and modeling results.

673. (LARP781) Contemporary Urbanism. (B) Gouverneur.

This course will expose students to a wide array of case studies in Planning, Urban Design, and Landscape Architecture. They include: notions of sustainable development, the interplay between open space and built form, the rehabilitation of existing areas as historic districts, commercial corridors, and the improvement of squatter settlements. Also, it will focus on city expansions and new towns, housing, mixed-use developments, and areas of new centrality. The program will address as well territorial planning, the improvement of open space systems, and site specific interventions of parks, plazas, streetscape and gardens. Cases will provide the proper ground for analysis and interpretation of issues related to the design and implementation of "good" landscape and urban form. Class discussions will be complemented with short design exercises. We will also enjoy the presence of outstanding visiting lecturers, who will share with us cutting-edge information, derived from their professional practice and research. Registration limited to students in the MLA 602 level; students in the Certificate in Urban Design program and a limited number of MLA students needing to fulfill the Theory III requirement; other PennDesign graduate students must seek permission of the instructor.

675. Land Use and Environmental Modeling. (B) Landis. Prerequisite(s):

Some knowledge of GIS and statistics. Planners at every scale and of every type are increasingly using spatial data and models to analyze existing patterns, identify and parameterize key trends and urban processes, visualize alternative futures, and evaluate development impacts. This course will introduce students to various GIS-based land use and environmental planning models, including, among others: TR55 for analyzing parcel-level stormwater runoff; BASINS for analyzing watershed-level

stream volumes, runoff, and water quality; HAZUS for analyzing the potential damage impacts of floods, earthquakes, and hurricanes; UPlan and CUF/CURBA for developing detailed urban growth projections; CommunityViz for analyzing, simulating, and visualizing the impacts of proposed development projects; and other packages as available. A basic familiarity with ArcGIS is required.

SM 676. (SOCI270, URBS270) The Immigrant City. (B) Vitiello.

Immigration is among the most important yet controversial forces shaping cities, regions, and neighborhoods. The diversity of immigrant and receiving communities means that the dynamics and impacts of migration are varied and complex. This course examines the development of immigrant and receiving communities in the United States. It surveys public policy and community and economic development practices related to migration at the local, regional, national, and trans-national scale. Class readings, discussions, and visits to Philadelphia's immigrant neighborhoods explore themes including labor markets, housing experiences, political mobilization, civil society, cultural preservation, and the built environment.

The first half of the course surveys migration and community formation among a broad range of ethnic groups in different parts of the city and suburbs, mainly through history, sociology, and geography; the second half focuses on specific policy and community and economic development initiatives. Ultimately, the class aims to provide students with 1) a broad knowledge of immigration and its impacts on cities and regions; 2) an in-depth understanding of urban policies and institutions working on immigration in U.S. cities; and 3) familiarity with community and economic development strategies for migrant and receiving communities.

SM 678. (URBS478) Elements of a Sustainable Development Policy. (B) Keene.

This course has several objectives. The central focus will be on developing a comprehensive understanding of the principles of sustainable development, a broad, deep, and in fact, revolutionary new way of shaping the operations of society. It was first defined in the 1987 Report of the United Nations' World Commission in Environment and Development (the Brundtland Report) as: "... development that meets the needs to the present without compromising the ability of future generations to meet their own needs." The course will combine lectures on general

concepts and ways of viewing sustainable development with individuals and team presentations on a wide variety of sustainable development programs. Students will examine the efforts of universities, companies, local governments, state governments, and national governments to being to moderate man's impact of the natural environment and to make societies more economically viable and just - and therefore, more sustainable - in the long run. Students will learn how sustainable development strategies involve the full range of human activities, such as energy production and use, creation of urban communities, transportation, food systems, building construction and operation, waste disposal, control of environmental pollution, water use and treatment, and social inclusion, migration, and global poverty.

SM 679. (ARCH756) Policy and Design. (B) Hughes.

This seminar provides an advanced introduction to policy development and is intended to engage students in policy-making. Policy outcomes often have formal and/or scalar qualities. Yet policy developers often treat these as unintended consequences. And designers typically operate within the constraints created by such consequences. But could design thinking improve policy outcomes? Our test bed for this examination will be the relationship between energy and urban form, which presents a critical policy challenge for young professionals from many fields. The seminar will survey current research and policy options emerging from local, regional, state, and federal governments and discuss their implications for design outcomes at the scale of buildings, neighborhoods, and regions? None of these implications have been fully explored by policy makers at any level of government. This seminar will explore each in turn, allowing students to develop a deep understanding of the policy content on this important issue as well as of the policy process in general. Students will develop projects ranging from an analysis of policy to a presentation of the design implications of existing/proposed/alternative energy policies. The intent is for the seminar to make an active contribution

SM 680. (LARP745) Advanced Topics in GIS. (A) Tomlin. Prerequisite(s): CPLN-623.

The primary objective of this course is to equip students with a selected set of sophisticated and specialized tools for the practical use of geographic information

systems in a variety of application settings. Participants will have the opportunity to focus on particular topics in each of four major areas including: data acquisition - e.g. remote sensing, LiDAR imagery, global positioning systems, mobile GIS, applied geocoding, geodatabases, ArcSketch, and/or CAD interaction; communication - e.g. web mapping, animation, and/or professional cartographic techniques; problem solving - e.g. cartographic pattern recognition, geospatial allocation, agent-based modeling, geostatistics, network analysis, and/or spatio-temporal simulation; and tool building - e.g. Python scripting, GoogleMap mashups, and/or open source GIS. The course is conducted in a seminar format with weekly sessions devoted to lectures, demonstrations, and discussions conducted by the instructor, students and invited guests. Offered in the spring annually.

SM 682. (ARTH581) HUMANITIES, URBAN, DESIGN. (B)

690. (MUSA610) Java and Javascript Programming for Planning Applications. (A) Faculty.

This course will introduce city planning, MUSA and design graduate students to Java and Javascript. Students will learn the logic and syntax of the Java programming language for use in simple web applications (Weeks 1 to 7); as well as how to program database and map-oriented web and desktop applications using Javascript (Weeks 8 to 14). The "hands-on" uses of Java and Javascript in urban planning applications will be emphasized. Students will hone their programming and applications development skills through a series of bi-weekly assignments.

701. Planning Studio. (B) Yaro.

Intensive study of a selected planning topic. Teams of students work with clients to develop alternative scenarios and produce plan and implementation strategies. Multiple presentations required.

702. Planning Studio. (B) Al.

Intensive study of a selected planning topic. Teams of students work with clients to develop alternative scenarios and produce plan and implementation strategies. Multiple presentations required.

703. Planning Studio. (B) Staff.

Intensive study of a selected planning topic. Teams of students work with clients to develop alternative scenarios and produce plan and implementation strategies. Multiple presentations required.

704. Planning Studio. (B)

705. Planning Studio. (B) Landis.

707. Planning Studio. (B)

708. Planning Studio. (B) Landis.

720. Community and Economic Development Practicum. (C) Vitiello.

This practicum involves a weekly mixture of lecture and seminar course-time with applied problem solving for real-world clients. It will be a second-year course focused on organizational development, business planning, and other strategic planning techniques that complement the physical planning focus on PennPlanning Workshop and Studio. Required of students in the CED concentration.

730. Sustainable Cities. (B) Hughes.

Sustainability as a concept has been around for almost thirty years, but only recently has become a major factor in planning practice. This seminar course will explore the following sustainability topics and practices: (i) Goals and organization of urban sustainability initiatives; (ii) Transportation, water and air quality, solid waste reduction; (iii) Climate change and energy efficiency initiatives; and (iv) Green building policies. We will thoroughly examine case studies drawn from sustainability planning initiatives from major American cities, with selected international comparisons.

SM 750. (ESE 550) Advance Transportation Seminar, Air Transportation Systems Planning. (B) Ryerson. Prerequisite(s): CPLN 550 or equivalent.

Air transportation is a fascinating multi-disciplinary area of transportation bringing together business, planning, engineering, and policy. In this course, we explore the air transportation system from multiple perspectives through a series of lessons and case studies. Topics will include airport and intercity multimodal environmental planning, network design and reliability, air traffic management and recovery from irregular operations, airline operations, economics, and fuel, air transportation sustainability, and land use issues related to air transportation systems. This course will introduce concepts in economics and behavioral modeling, operations research, statistics, environmental planning, and human factors that are used in aviation and are applicable to other transportations systems. The course will emphasize learning through lessons, guest lecturers,

case studies of airport development, and an individual group and research project.

760. Public Realm Studio. (A) AI.

This intensive foundation studio focuses on the physical planning and design skills necessary in shaping the public realm. Students will undertake a series of targeted exercises that introduce them to project conceptualization, context analysis, programming, site planning, technical issues, and detailed design of public space in cities. Focusing on issues pertinent to local municipalities, students will work collaboratively and individually over the semester on design elements that cover a range of scales. Intellectual objectives within the studio include: the links between theory and practice, the development of principles to guide design, understanding associations between design and stakeholder-user interests, and exploring larger issues of sustainability and participation in design practice. Emphasis on the pragmatics of problem solving and implementation will be balanced with essential skills in visioning, critical thinking and design leadership.

791. CPLN Summer Institute: Spreadsheet Review. (L) Faculty.

Excel for Planners: use of Excel to develop simple planning indicators (e.g., location quotients), simple planning models (e.g., fiscal impact models), and database operations. Course enrollment is by permit only. Please contact Roslynnne Carter (CPLN Dept.) at at roslynnne@design.upenn.edu.

792. CPLN Summer Institute: Statistics. (L) Faculty.

Basic Statistics for Planners: review of descriptive and basic inferential statistics, including z-scores, confidence intervals, t-tests, and chi-squared. Course enrollment is by permit only. Please contact Roslynnne Carter (CPLN Dept.) at at roslynnne@design.upenn.edu.

793. CPLN Summer Institute: Computer Methods Computer Graphics. (L) Faculty.

Introduction to Presentation and Report Graphics for Planners: including one day each on Photoshop, Illustrator, Sketchup, and InDesign Course enrollment is by permit only. Please contact Roslynnne Carter (CPLN Dept.) at at roslynnne@design.upenn.edu.

794. CPLN Summer Institute: Microeconomics Review. (L) Faculty.

Micro-econ Review: review of principles of supply and demand, elasticities, equilibrium prices and quantities. Course enrollment is by permit only. Please contact Roslynnne Carter (CPLN Dept.) at at roslynnne@design.upenn.edu.

795. CPLN SUMMER:INTRO TO GIS. (L) Faculty.

The summer GIS Bootcamp prepares students for the intermediate GIS classes that begin in the fall semester. It begins with a discussion of GIS in planning and the social sciences and then moves on to topics related to spatial data, geocoding, projection, vector and raster-based

geoprocessing, 3D visualization and more. Each class includes a brief lecture and a walk through involving actual planning related data. Course enrollment is by permit only. Please contact Roslynnne Carter (CPLN Dept.) at at roslynnne@design.upenn.edu.

796. Professional Project. (B) Staff. Capstone project, supervised by a faculty member.

SM 800. (HIST608, URBS608) Doctoral Seminar. (C) Birch.

Open to PhD students, this scholar-oriented seminar explores how academic researchers from different disciplines define researchable questions, craft research designs, and contribute to knowledge through an examination of important and/or recently published books and monographs with an urban focus. Required of all first- and second- year CPLN doctoral students and those doctoral students enrolled in the Urban Studies Graduate Certificate Program, enrollment is limited to 15 students. Other doctoral students may enroll on a space available basis. Course requirements include completion of a major research paper on a topic selected in consultation with the instructor.

999. Independent Study and Research. (C) Staff. Ph.D. candidates. Independent study and research under faculty supervision.

**CLASSICAL STUDIES
(AS) {CLST}**

**SM 006. Freshman Seminar:
Inescapable Classics. (M) Rosen.**

The legacy of Greco-Roman traditions in Western culture is everywhere apparent. Whether in the realm of political or legal systems, philosophical and scientific discourse, mythological dreamscapes, psychology, literary genre or aesthetic theory, the contribution of Greek and Roman culture is routinely invoked sometimes to admire, other times to lament. It forms a highly complex narrative of reception and influence, shaped by historical contingencies, individual talents and temperaments, and continually shifting conceptions of what these contributions actually were. This seminar will trace the evolution of the Classical tradition, in all its varied and inconsistent manifestations, primarily through the visual arts. It will be a museum-based course, organized around four important Philadelphia museums or collections: (1) The Penn Museum (for ancient artifacts), (2) Penn's manuscript collection within van Pelt Special Collections (where we will examine original manuscripts of the Medieval and Renaissance periods that transmit Classical culture), (3) The Philadelphia Museum of Art, and (4) The Pennsylvania Academy of the Fine Arts, both of which house many examples of painting and sculpture deeply informed by the Classical tradition.

L/R 026. (ANCH026, HIST026) Ancient Greece. (A) History & Tradition Sector. All classes.

The Greeks enjoy a special place in the construction of western culture and identity, and yet many of us have only the vaguest notion of what their culture was like. A few Greek myths at bedtime when we are kids, maybe a Greek tragedy like Sophokles' Oidipous when we are at school: these are often the only contact we have with the world of the ancient Mediterranean. The story of the Greeks, however, deserves a wider audience, because so much of what we esteem in our own culture derives from them: democracy, epic poetry, lyric poetry, tragedy, history writing, philosophy, aesthetic taste, all of these and many other features of cultural life enter the West from Greece. The oracle of Apollo at Delphi had inscribed over the temple, "Know Thyself." For us, that also means knowing the Greeks. We will cover the period from the Late Bronze Age, c. 1500 BC, down to the time of Philip of Macedon, c. 350 BC, concentrating on the

two hundred year interval from 600-400 BC.

L/R 027. (ANCH027, HIST027) Ancient Rome. (B) History & Tradition Sector. All classes. staff.

The Roman Empire was one of the few great world states-one that unified a large area around the Mediterranean Sea-an area never subsequently united as part of a single state. Whereas the great achievements of the Greeks were in the realm of ideas and concepts (democracy, philosophy, art, literature, drama) those of the Romans tended to be in the pragmatic spheres of ruling and controlling subject peoples and integrating them under the aegis of an imperial state. Conquest, warfare, administration, and law making were the great successes of the Roman state. We will look at this process from its inception and trace the formation of Rome's Mediterranean empire over the last three centuries BC; we shall then consider the social, economic and political consequences of this great achievement, especially the great political transition from the Republic (rule by the Senate) to the Principate (rule by emperors). We shall also consider limitations to Roman power and various types of challenges, military, cultural, and religious, to the hegemony of the Roman state. Finally, we shall try to understand the process of the development of a distinctive Roman culture from the emergence new forms of literature, like satire, to the gladiatorial arena as typical elements that contributed to a Roman social order.

SM 029. ROME & AMERICA. Grey.

This course explores a range of social structures and contexts, cultural understandings and intellectual practices where the influence of Roman exemplars is discernible in both historical and present-day America. It presents students with Roman and American materials placed in explicit or implicit dialog with one another: e.g., descriptions and discussions of political processes and structures; attitudes towards games, public entertainments, and communal cohesion; rhetorics and vocabularies of public space. Among other tasks and projects, students will stage a 'reimagination' of the Constitutional (Philadelphia) Convention of 1787, which resulted in the United States Constitution. They will also emulate ancient moralists and satirists, who attacked Rome's 'Bread and Circuses' culture, by focusing their attention upon comparable practices in modern America.

L/R 100. (COML108) Greek & Roman Mythology. (C) Arts & Letters Sector. All Classes. Farrell.

Myths are traditional stories that have endured many years. Some of them have to do with events of great importance, such as the founding of a nation. Others tell the stories of great heroes and heroines and their exploits and courage in the face of adversity. Still others are simple tales about otherwise unremarkable people who get into trouble or do some great deed. What are we to make of all these tales, and why do people seem to like to hear them? This course will focus on the myths of ancient Greece and Rome, as well as a few contemporary American ones, as a way of exploring the nature of myth and the function it plays for individuals, societies, and nations. We will also pay some attention to the way the Greeks and Romans themselves understood their own myths. Are myths subtle codes that contain some universal truth? Are they a window on the deep recesses of a particular culture? Are they entertaining stories that people like to tell over and over? Are they a set of blinders that all of us wear, though we do not realize it? Investigate these questions through a variety of topics creation of the universe between gods and mortals, religion and family, sex, love, madness, and death.

102. (ENGL029) Classical Traditions. (M) Arts & Letters Sector. All Classes. Murnaghan.

A broad consideration of the ways in which writers and artists from the early modern era to the present day have responded to the classical tradition, borrowing from, imitating, questioning, and challenging their classical predecessors. Through modern reworkings of ancient epic, tragedy, biography, and lyric by authors ranging from Shakespeare and Racine to contemporary poets, painters, and filmmakers, we will ask what the terms "classical" and "tradition" might mean and will track the continuities and differences between antiquity and the modern world. Should we see ancient Greek and Roman culture as an inheritance, a valuable source of wealth bequeathed to the modern age? Or is there something wrong with that picture? How do ancient texts have to be adapted and transformed if they are to speak to modern conditions and concerns? This is an introductory-level course open to anyone who cares about the relationship between the present and the past.

L/R 103. (PHIL003) History of Ancient Philosophy. (A) History & Tradition Sector. All classes. Meyer.

An introduction to the major philosophical thinkers and schools of ancient Greece and Rome (The Presocratics, Plato, Aristotle, Stoics, Epicureans, and Sceptics). Topics to be covered include: nature of the universe, the relation between knowledge and reality, and the nature of morality and the good life. We will also examine some of the ways in which non-philosophical writers (e.g., Homer, Hesiod, Aristophanes, and Thucydides) treat the issues discussed by the philosophers.

SM 107. (COML130) Ancient Drama. (C) Arts & Letters Sector. All Classes. Wilson.

This course will introduce students to some of the greatest works of dramatic literature in the western canon. We will consider the social, political, religious and artistic functions of drama in ancient Greece and Rome, and discuss both differences and similarities between ancient drama and modern art forms. The course will also pursue some broader goals: to improve students skills as readers and scholarly critics of literature, both ancient and modern; to observe the implications of form for meaning, in considering, especially, the differences between dramatic and non-dramatic kinds of cultural production: to help students understand the relationship of ancient Greek and Roman culture to the modern world; and to encourage thought about some big issues, in life as well as in literature: death, heroism, society, action and meaning.

L/R 111. (ANTH111, ARTH227) Introduction to Mediterranean Archaeology. (M) History & Tradition Sector. All classes. Bowes.

Many of the world's great ancient civilizations flourished on the shores of the Mediterranean Sea: the Egyptians, the Minoans and Mycenaean, the Greeks and Romans, just to name a few. In this course, we will focus on the ways that archaeologists recover and interpret the material traces of the past, working alongside natural scientists, historians and art historians, epigraphers and philologists, and many others.

Archaeological sites and themes from over 2000 years of Mediterranean history will be presented. This course is a non-technical introduction that assumes no prior knowledge of archaeology.

SM 117. (ANCH117) Periclean Athens. (A) Jeremy McInerney.

This class is devoted to the culture and history of Athens in the 5th century BC, the golden age of Greek culture. We will examine such topics as the growth of democracy, Athenian religion and the architectural embellishment of the Acropolis and the Agora. We will look at the development of Athenian drama and explore the relationship between Athenian democracy and naval power.

118. (ANCH119) Augustan Cultural Revolution. (C) Farrell.

The principate of Augustus is one of history's most decisive turning points, in that it brought about the transformation of the Roman Republic into an Empire. This political revolution depended on a cultural one, and Augustus used literary and artistic production not just as media of communication for the dissemination of favorable propaganda, but as a means of refashioning Roman culture. The result was that fundamental changes were made to seem natural and inevitable even as almost every aspect of political, social, and cultural life were decisively transformed. This course examines the phenomenon by considering closely the history and the literary and artistic production of the period.

123. (ANTH127) Great Discoveries in Archaeology. Surtees.

Archaeology is a young and exciting scientific discipline created around 150 years ago as a way to discover and interpret the material remains of our human past. Many archaeological sites are world-famous: Pompeii, Troy, the pyramids of Egypt, the Parthenon of Athens, the Taj Mahal, and the temple complex at Angkor Wat, to name a few. In this course, we will examine many important archaeological sites in the "Old World" of the Mediterranean, Near East, and Asia. Using a thematic and comparative approach, we will delve deeper to explore the societies that produced these wonders, and examine cultural similarities and differences across the Old World. This course is a non-technical introduction for students interested in archaeology, history, art history, anthropology, or related subjects.

SM 126. Roman Philadelphia. Cam Grey.

This course explores the intellectual, cultural, and social influences of ancient Rome on the city of Philadelphia, its history, architecture, and self-identity. It uses those influences as an impetus for considering the impact of Roman

exemplars and models upon American society more broadly. Students will reimagine the Constitutional (Philadelphia) Convention of 1787, which resulted in the United States Constitution, highlighting the considerable impact that Roman political ideas had on proceedings. They will emulate ancient moralists and satirists, who attacked Roman Bread and Circuses culture, by critiquing comparable practices in modern America. They will explore the collection of bronze casts of Pompeian artifacts donated to the Penn Museum by John Wanamaker within the context of neoclassicism and cultures of collection in the nineteenth century. And they will gain an appreciation of the ways in which Roman ideas about the organization of space have shaped the physical form of Philadelphia.

140. (COML141) Scandalous Arts in Ancient and Modern Communities. Humanities & Social Science Sector. Class of 2010 & beyond. Rosen. Previously listed as CLST240.

What do the ancient Greek comedian Aristophanes, the Roman satirist Juvenal, have in common with Snoop Dogg and Eminem? Many things, in fact, but perhaps the most fundamental is that they are all united by a stance that constantly threatens to offend prevailing social norms, whether through obscenity, violence or misogyny. This course will examine our conceptions of art (including literary, visual and musical media) that are deemed by certain communities to transgress the boundaries of taste and convention. It juxtaposes modern notions of artistic transgression, and the criteria used to evaluate such material, with the production of and discourse about transgressive art in classical antiquity. Students will consider, among other things, why communities feel compelled to repudiate some forms of art, while others into classics."

143. Authors and Audiences of the Greek and Roman World. (J) ker.

What was literature for the Greeks and the Romans? This course begins by examining ancient "literary culture": the various social practices and modes of communication through which ancient literature was produced, ranging from theories of divine inspiration to the conditions under which literature was performed, circulated, read, and transmitted. We then apply this framework to three major case-studies, reading "masterpieces" in three genres of the literary canon with a focus on their various social functions. Genres for study in spring 2015 are: (1) Lyric poetry; (2) Tragedy; (3) The Ancient Novel. Goals:

This course is intended to give students a thorough familiarity with key works from the Greco-Roman literary tradition in conjunction with analysis of the sociology of literature in the ancient world. The primary objectives are critical reading, critical discussion, oral presentation, formal scholarly writing, and a greater sensitivity to sociocultural diversity in ancient Greece and Rome.

146. (ANCH146) Ancient Mediterranean Empires. (A) Wilker.

What constituted an empire in antiquity and how was imperialism legitimized? Which measures were used to maintain and organize imperial power? How did foreign rule affect the daily life of people all over the Mediterranean? In this course we will discuss and compare ancient empires from Achaemenid Persia to Alexander the Great and the Hellenistic kingdoms of his successors to the emergence of Rome as one of the most successful and influential empires in world history. Topics that will be discussed include ancient ideas and concepts of imperial rule, patterns of political, economic and cultural power and their interrelations as well as imperial crises and local resistance.

L/R 185. (PSCI180) Ancient Political Thought. (A) History & Tradition Sector. All classes. Staff.

The way in which the Greeks understood and expressed their political institutions, activities, and challenges has deeply impressed our own conception of politics. This course will trace the history of this ancient heritage from its inception to today, first through a close analysis of key texts from Thucydides, Plato, Aristotle, and Polybius, and then by considering several important moments in the reception of the Greek political tradition, from the Renaissance and American Revolution to the crisis of modernity and the Neo-Conservative Movement. We evaluate the relationship between distant and recent past as well as the influence of both on our own day.

SM 202. (ARTH202) Mycenae, Pylos and Troy. (M) Tartaron.

The Iliad of Homer recounts the tale of a great war fought by Greek and Trojan armies before the walls of Troy's lofty citadel. This foundation epic of Western literature tells of gods, heroes, and magical places already part of a deep past when Homer's work was set to writing, ca. 700 B.C. Does the Homeric story of the Trojan War have a basis in real events? Scholars have long pointed to the Mycenaean civilization, which flourished on the

mainland of Greece in the Late Bronze Age (ca. 1600-1200 B.C.), as the inspiration for the Homeric stories. In this course, we will examine the archaeology of the great centers of the Late Bronze Age in Greece and Anatolia, particularly Mycenae, Pylos, and Troy. Our main aim will be to better understand the social, political, and economic context of this Late Bronze Age world, which may shed light on the possibility that a "Trojan War" of some kind actually occurred. The primary focus on archaeology is supplemented by readings from Homer's Iliad and Odyssey.

SM 203. MONSTERS & MARVELS.

SM 211. (PHIL211) Ancient Moral Philosophy. (B) Society Sector. All classes. Meyer.

A survey of the ethical theories debated by philosophers in Classical Greece and Rome. Plato, Aristotle, Stoics, Epicureans and Pyrrhonist Sceptics offer competing answers to the fundamental question raised by Socrates: How are we to live? That is, what is the best life for a human being? These philosophers generally agree that virtue is an important part of the best human life, but disagree about whether it is the greatest good (Epicurus, for example claims that pleasure is the highest good), or whether there are any other goods (for example, health, wealth, family). Much attention is paid in their theories to accounts of the virtues of character, and to the place of wisdom in the best sort of human life.

220. (AAMW625, ARTH225, ARTH625, CLST620) Greek Art and Artifact. (A) Kuttner.

This course surveys Greek art and artifacts from Sicily to the Black Sea from the 10th BCE up to the 2nd centuries BCE reaching the Age of Alexander and the Hellenistic Kingdoms. Our objects range from public sculpture and painting on and around grand buildings and gardens, to domestic luxury arts like jewelry, cups and vases, mosaic floors, and the humbler objects of worship and every-day life. Greek addressed heroic epic, religious and political themes, engaged viewers' emotions, and served mundane as well as monumental aims. Current themes include Greek ways of looking at art and space, and ideas of invention and progress; the roll of monuments, makers and patrons in Greek society; and connections with the other cultures that inspired and made use of Greek artists and styles. To understand ancient viewers' encounters, you will meet the spaces of sanctuary and tomb, house and city, garden and private collection; your readings will sample ancient peoples'

art writing. Diverse approaches introduce art historical aims and methods, and their relationships to archaeology, anthropology and other disciplines -- also to modern kinds of museums, not least our own University Museum of Archaeology.

No prerequisites. This course fulfills the 'global requirement'. Of interest to students of classical, middle-eastern, visual and religious studies, anthropology, history, communications and the GSD programs.

L/R 221. (AAMW621, ARTH226, ARTH626, CLST621, RELS205) Hellenistic and Roman Art and Artifact. (B) Kuttner.

An intensive introduction to the art and architecture of Rome and her empire from Republican and later Hellenistic to Constantinian times. Variable emphasis on topics ranging from major genres, styles, and programs of commemorative and decorative art, historical narrative, and political iconography to building types and functions and the specific Etrusco-Roman notion of space, land division, and city planning.

223. Ages of Homer: An Archaeological Introduction to the Greek Bronze and Iron Ages. (K) Tartaron.

This illustrated lecture course surveys the prehistory and early history of the Greek world through texts and material remains, with the aim of bringing to life the society, economy, and politics of this ancient era. Among the topics are the rise and fall of the great Bronze Age civilizations of the Aegean area, the Minoans of Crete and the Mycenaeans of the Greek mainland; the cataclysmic volcanic eruption on the island of Thera and its long-term consequences; the possibly historical Trojan War; the Homeric world of the Dark Age that followed the collapse of the Mycenaean palaces; and the Greek renaissance of the eighth century B.C.-including the adoption of the alphabet, the great colonizing movement, and the Panhellenic sanctuaries-that laid the foundation for the Classical world to come. Ages of Homer is part of a sequence of introductory courses on the archaeology of the Greco-Roman world, which also includes Introduction to Greek Archaeology (CLS 275) and Introduction to Roman Archaeology (CLST 274). There are no prerequisites, and these courses need not be taken in a particular order

SM 230. (HIST230) TOPICS IN EUROPEAN HIST. (C)

252. Archaeology of Private Life. (C)
Bowes.

What was it like to live in the Roman world? What did that world look, taste and smell like? How did Romans raise their families, entertain themselves, understand death, and interact with their government? What were Roman values and how did they differ from our own? This course takes as its subject the everyday lives of individuals and explores those lives using the combined tools of archaeology, architecture and art, as well as some primary source readings. In doing so, it seeks to integrate those monuments into a world of real people, and to use archaeology to narrate a story about ancient lives and life habits. Some of the topics explored will include the Roman house, bathing and hygiene, gardens, agriculture and children.

SM 257. Religion and the Polis. (M)
McInerney.

267. (COML167) Ancient Novel. (M)
Wilson.

The ancient Greek and Roman novels include some of the most enjoyable and interesting literary works from antiquity. Ignored by ancient critics, they were until fairly recently dismissed by classical scholars as mere popular entertainment. But these narratives had an enormous influence on the later development of the novel, and their sophistication and playfulness, they often seem peculiarly modern--or even postmodern. They are also an important source for any understanding of ancient culture or society. In this course, we will discuss the social, religious and philosophical contexts for the ancient novel, and we will think about the relationship of the novel to other ancient genres, such as history and epic. Texts to be read will include Lucian's parodic science fiction story about a journey to the moon; Longus' touching pastoral romance about young love and sexual awakening; Heliodorus' gripping and exotic thriller about pirates and long-lost children; Apuleius' Golden Ass, which contains the story of Cupid and Psyche; and Petronius' Satyricon, a hilarious evocation of an orgiastic Roman banquet.

268. (ANTH267, ANTH567) LIVING WORLD IN ARCHAEOLOGICAL SCIENCE. Kassabaum, Monge, Moore.

By focusing on the scientific analysis of archaeological remains, this course will explore life and death in the past. It takes place in the new Center for the Analysis of Archaeological Materials (CAAM) and is team taught in three modules: human skeletal analysis, analysis of animal

remains, and analysis of plant remains. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how organic materials provide key information about past environments, human behavior, and cultural change through discussions of topics such as health and disease, inequality, and food.

274. (ANTH274) Introduction to Roman Archaeology. (M) Surtees.

This course offers a chronological introduction to the archaeology of the Roman world from its origins as a village on the Tiber River to its eventual collapse as a world empire. It considers great monuments like the Coliseum and Nero's palace, to brothels and peasant huts. It will examine what Romans ate and how died, Roman economic systems, transportation, religion and other aspects of Roman material culture.

275. (AAMW401) Introduction to Greek Archaeology. (M) Staff.

An introduction to the art and archaeology of ancient Greece from the Archaic through Hellenistic periods. Topics to be considered include the formation of the Greek polis, the rising and falling fortunes of Athens and the other Greek city-states in the Classical period, and the world of Alexander the Great. Emphasis is placed on the consideration of the archaeological evidence, e.g., sculpture, painting, pottery, architecture, and other material culture. This course is part of a sequence of introductory courses (with Ages of Homer and Introduction to Roman Archaeology) on the archaeology of the Greco-Roman world. There are no prerequisites, and these courses need not be taken in a particular order.

288. (ANTH288) MYTH,FRAUD,SCI IN ARCHY. (M)

SM 300. (ANCH301) Problems in Greek and Roman History. (M) Cam Grey.

The neat, comforting narratives that we construct of the histories of ancient Greece and Rome cover up a collection of controversies and debates that continue to rage in contemporary scholarship. Can we use the Homeric epics as sources of early Greek history? Who was responsible for the Peloponnesian War? How can we best explain Rome's acquisition of empire? How new was the political revolution of Augustus? What were the main reasons for the rise of Christianity? In this course, we explore these and other controversies,

focusing on both modern scholarship and the ancient sources. All texts will be discussed in translation. No prior knowledge of Ancient History is required, although it would be useful to have taken ANCH 026 and/or ANCH 027.

SM 301. (ARTH301) The World of Late Antiquity. (C) Kuttner.

Prerequisite(s): There are no prerequisites except experience with intermediate to advanced undergraduate research. Prior experience with analysis of art and artifacts, or with ancient Mediterranean culture, is useful but not required; many disciplines are useful to this collaborative seminar, and its structure will encourage collaboration between students of diverse specialties.

Just what is Late Antiquity? For this interdisciplinary course, it's the from the later third century within the Roman Mediterranean world up to the 8th-century age of Charlemagne and the Islamic Arab expansion. Its territory spans the three continents ringing the Romans' Mediterranean Sea: Britain and Eurasia, North Africa and Egypt, the Near and Middle East. This period has been called an Age of Spirituality, to which the arts were critically important: those traditions include Christianity, Judaism, Islam, and many sorts of enduring paganism. To Romanists and Byzantinists, the period seems an Age of Invasions, whether by Goths and Franks in the west or the great expanding empires of the east, the Yet just as Partho-Sassanian realm based in Iran, and the early Islamic, Arab, Ummayyad empire. the contending peoples sometimes intermarried and often traded with one another, their visual and material culture frequently documents cultural borrowing and exchange.

The ancient Roman world had constructed national, imperial, personal identities with visual splendors and the artifacts of daily life. The Late Antique world still did. Moving around sites like its soldiers and merchants, princes and pilgrims, this course explores many sorts of objects and their economies of production and consumption -- sarcophagi and statuary, arches and coins, mosaic floors and painted halls, illustrated books and carved gems, artistry in silver and ivory and glass. We put them back in their settings: architecture and designed landscape in city and sanctuary, in tombs, houses, palaces, and country villas. We'll listen, too, to the ancient men and women who spoke about what to look at, why, and how, when they debated the status of the arts in society -- historians and religious leaders, poets and philosophers, novelists and letter-writers,

and the messages written onto buildings and things.

Tradition and innovation are the buzzwords of Late Antique art histories, classically symbolized by how Constantine refurbished the city of Rome, and also founded a brand new Christian Rome at the city he named for himself, Constantinople - it became the capital of the Byzantine Romaioi until it fell to the Ottomans in the 15th century CE. Very deliberately, late Roman peoples (including invaders) repaired, recycled and emulated their inheritance of a millennium of Graeco-Roman design; the Late Antique peoples also celebrated vigorous contemporary identities by radical innovation in style, content, and production.

The course will exploit the resources of the University Museum of Archaeology Anthropology; students will be encouraged to use the collections of regional museums. There will be one assigned museum field-trip outside of Philadelphia.

302. (COML302) Odyssey & Its Afterlife. (B) Murnaghan.

As an epic account of wandering, survival, and homecoming, Homer's *Odyssey* has been a constant source of themes and images with which to define and redefine the nature of heroism, the sources of identity, and the challenge of finding a place in the world.

This course will begin with a close reading of the *Odyssey* in translation, with particular attention to Odysseus as a post-Trojan War hero; to the roles of women, especially Odysseus' faithful and brilliant wife Penelope; and to the uses of poetry and story-telling in creating individual and cultural identities. We will then consider how later authors have drawn on these perspectives to construct their own visions, reading works, or parts of works, by such authors as Virgil, Dante, Tennyson, James Joyce, Constantine Cavafy, Derek Walcott, and Margaret Atwood. Each student will choose a work inspired by the *Odyssey* (from possibilities spanning many periods, cultural traditions, and media) on which to give a presentation and write a paper.

SM 303. (ARTH303) Introduction to Museums. (I) Bowes.

This course Presents an introduction to the history, theory and modern practice of museums. Using the resources of the University Museum, the course will introduce students to curatorial practice, education, exhibition design and conservation, while exploring the theoretical and ethical issues confronted by museums. Particularly relevant for those interested in archaeology, anthropology, art

history, cultural heritage and public education.

SM 304. Archaeology of Troy and Gordion. (M) Rose.

An introduction to the archaeology of the sites of Troy, in northwestern Turkey, and Gordion, capital of the Phrygians and the seat of King Midas. The course will focus on the results of new excavations at both sites, which have altered our understanding of war and destruction in Anatolia during the Bronze and Iron Ages. The two sites will be viewed against contemporary historical developments in Greece and Assyria. Greek, Roman, and Medieval attitudes toward Troy and Gordion will also be considered.

308. Visions of Rome in Art, Literature, and Cinema. (C) Farrell.

Artists, writers, and filmmakers have been drawn to and repelled by the intense experiences offered to them by the city of Rome. This course surveys the cultural record of those experiences in various media from antiquity to the present. We will consider the city as a center of culture, a den of iniquity, a religious sanctuary, and a political capital as depicted in the works of (among others) Cicero, Fellini, Goethe, Piranesi, Montaigne, Kubrick, Juvenal, Byron, Luther, and Freud.

SM 309. (ANTH319) Pottery and Archaeology. (M) Boileau.

Prerequisite(s): Any introduction to archaeology course or permission of instructor.

Pottery is the most ubiquitous material recovered from most archaeological sites of the last 10,000 years; all archaeologists must be capable of working with it. This course presents the basics on the recovery, documentation, and analysis of archaeological pottery. Instruction includes treatment of pottery in the field, museum, and laboratory. Students will develop critical awareness of the potentials and problems of interpreting pottery within the wider social contexts of production, exchange and consumption. This course will foster an appreciation of the range and complexity of pottery studies and encourage students to understand the materials and technological processes used in the manufacture of pottery.

SM 310. Ancient and Modern Constitution Making. (C) Mulhern.

Constitutionmaking reemerged as an urgent issue in the Twentieth Century with the transformation of colonial empires after World War II and the collapse of the Soviet empire near the end of the century.

Constitutionmaking issues made themselves felt also in the constitutionally more mature locations. Even in the British Isles, for example, nationalist movements prompted new constitutional arrangements. And in the Twenty-First Century, as competition for control of Central Asia, the Middle East, and Northern Africa has reintensified, the written constitution has been hailed by some as the vehicle for changing long established cultures. The most striking feature of constitutionmaking in the last two centuries may be its uneven success when it comes to reducing political conflict and in reforming if not improving customs, character, habits, and actions. What might explain this uneven success? Is an explanation to be found by going back to what appear to be the roots of constitutionmaking?

This course builds on contemporary scholarship to reconstruct what we may call the constitutionmaking tradition as it develops in the main ancient texts, which are read in English translation. The ancient texts are taken from Herodotus, the Pseudo-Xenophon, Diodorus Siculus, Thucydides, Xenophon, Plato, the author of the Aristotelian Athenian Constitution, Aristotle himself, Polybius, Cicero, Tacitus, Plutarch, Diogenes Laertius, and Augustine. The course traces this tradition through the Middle Ages to the classically trained thinkers of the Seventeenth Century, following linguistic and other clues that carry one up to the American colonial compacts and covenants, the so-called state constitutions, and the debates in the U.S. Constitutional Convention; and it continues through Nineteenth-Century and Twentieth-Century constitutionmaking into today's constitutionmaking efforts in Europe, North Africa, and elsewhere, concluding with an examination of the Egyptian constitution 2013.

The course is conducted as a group tutorial. In individual tutorials, where is one on one, the tutor typically assigns a paper to a student each week, and the student reads it the next week and takes questions from the tutor. In a group tutorial, the professor offers a prelecture to the students in each session on the text that they will read next to help them understand its historical, literary, and political context. In the next class, the students read short papers on the text, and these papers are discussed by other students and by the professor. The professor then provides a summary lecture on the text just completed, if necessary, and a prelecture on the set for the next class. At the end of the course, the students have reconstructed the constitutionmaking tradition for themselves from the primary sources.

This course became a BFS course in Spring 2003.

SM 312. (ANCH312) Writing History in Greece and Rome. (C) Damon.

What constituted history in ancient Greece and Rome? What claims to knowledge did history make, and how did these differ from other forms of knowledge? How did historians envision their task, and how did they go about performing it? We will read the works of the major Greek and Roman historians in translation in an attempt to answer those questions. Other issues to consider include the origins and development of historical writing, the place of history within the ancient literary tradition, and the similarities and differences between the ancient and modern practice of history.

SM 317. Technologies of the Mind in the Greek and Roman World. (I) Ker.

This course surveys the array of techniques available in Greece and Rome for the development of a person's intellectual and spiritual life. These included technical disciplines such as the art of rhetoric, philosophical doctrine, and ritual practice, as well as more informal or creative exercises such as the imitation of historical examples, memory-development, management of the household, dream-interpretation, and the art of love. The course will look in general at the concept of an art or skill ("techne", "ars") and methods of instruction (manuals, didactic poetry, regimens, etc.), and will explore specific case studies (such as Socrates, Cicero, Ovid, Quintilian, and Apuleius).

SM 320. Greek and Roman Magic. (M) Struck.

The Greeks are often extolled for making great advancements in rational thinking. Their contributions to philosophy, architecture, medicine, and other fields argue that they surely did advance rational thought. However, this view gives us an incomplete picture. Many Greeks, including well-educated, prominent Greeks, also found use for casting spells, fashioning voodoo dolls, toting magical amulets, ingesting magic potions, and protecting their cities from evil with apotropaic statues. In this course you will learn how to make people fall in love with you, bring harm to your enemies, lock up success in business, win fame and respect of your peers, and also some more general things about Greek and Roman society and religion -- you will also learn what "apotropaic" means.

SM 324. Age of Caesar. (M) Damon.

A course on Roman culture and society in a period of tumultuous political change, the lifetime of Julius Caesar (100-44BCE). Focuses on the interplay between shifting political and military realities and developments in social organization and literary production at Rome and in the wider Mediterranean world. The reception of Caesar in later ages will also be considered. Readings (all in translation) will include Catullus, Cicero, Lucretius, Plutarach, Sallust, Suetonius, and, of course, Caesar himself.

SM 325. (ARTH329) Topics in Roman Art and Architecture. (C) Staff.

Topics varies

Fall 2016: In this seminar we will examine key episodes in the development of architecture and urban design in ancient Rome. We will proceed chronologically so that changes to the city and its physical remains can be seen in the broader political, economic, and social context. We will also examine the effect that the landscape and geology had on building materials and architectural expression and how this changed as trade networks focused on Rome expanded during the imperial period. Whenever possible we will take advantage of materials in collection of the University of Pennsylvania Museum.

SM 327. Ancient Philosophers. (M) Wilson.

What was a "philosopher" in ancient Greece and Rome? How were philosophers viewed by non-philosophers in antiquity? What was the difference between philosophers and sophists? And how do ancient representations of philosophers compare to modern ideas about the position of intellectuals in society? The central figure to be studied will be Socrates, whom we will approach through Plato and Xenophon as well as Aristophanes' Clouds. We will compare and contrast the representations of Socrates with those of other ancient philosophers, through readings that will include parts of Diogenes Laertius' Lives, Seneca, and Marcus Aurelius. All Greek and Latin texts will be read in translation.

SM 329. (COML329, ENGL229, ENGL329) Topics in Classicism and Literature. (M) Silverman.

This advanced seminar will examine the classical backgrounds to English poetry, in particular the Biblical and Greco-Roman antecedents to Renaissance lyric verse and verse drama (such as, preeminently, Shakespeare). Different versions of this

course will have different emphases on Biblical or Hellenist backgrounds.

Spring 2013 Topic: A study of Ovid's *Metamorphoses* alongside poetry about its myths, from the well-known tale of Persephone, Demeter and Hades to the story of Semele, mother of Dionysus, who died while conceiving the god of revelry. We'll read poems by Rita Dove, H.D., W.B. Yeats, William Carlos Williams, and a whole host of other 20th and 21st century poets. Students will write a critical essay along with creative writing exercises in which they rewrite the myths themselves, placing them in contemporary contexts or identifying the contexts in which they're already playing themselves out. No creative writing experience needed at all. The course will also include films (*Orfeu Negro* and *Orpheus*) and a trip to the Philadelphia Museum of Art.

SM 331. (ENGL329) Reading the Iliad in a Time of War. (M) Struck.

Prerequisite(s): CLST 100.

Homer's *Iliad* presents a dark and difficult vision of the world, but one that nonetheless inspires. Casual cruelty, divine caprice, and savage violence test heroes and lesser people and provoke a reckoning with the stark realities of both human vulnerability and capability. It inspires a kind of terror, but still also somehow provides a kind of comfort, albeit one whose character seems almost beyond comprehension. By a close and careful reading of Homer's text, along with some reflections and readings drawn from more contemporary wars, including the current ones, we will try to examine these issues with one eye on the past and one on the present. Our goal will be to achieve some further understanding of war and human experience.

SM 332. (ANCH330) The Rise and Decline of Macedonia. (M) Wilker.

In this course, we will study the rise and development of Macedonia from a tiny kingdom on the northern fringes of the Greek world to one of the major powers of the region and beyond. Regarded by the Greeks as an at least semi-barbarian culture on the periphery, Macedonia became the dominant power in the Greek world during the fourth century BC and its king Alexander the Great set out to conquer the world. After his death, Macedonia was one of the Hellenistic kingdoms competing for power and influence in the Mediterranean until it finally came under Roman control. Topics that will be discussed include questions of ethnicity and identity, Macedonian kingship, culture and society (including the role of women) and the role

of Macedonian traditions in the Hellenistic era in general. Special emphasis will be laid on the discussion of ancient texts and documents as well as archaeological evidence.

334. (ANCH334) JERUSALEM IN ANTIQUITY. (M)

335. The Etruscans. Jean Turfa.

The Etruscans, who spoke a language unlike any others known, were cast by their Greek and Roman rivals as outsiders and enemies: pirates, lovers of luxury, loose women. Today we must rely on the archaeological evidence of painted tombs, decorated Tuscan temples and massive engineering works to correct the picture. The course will survey a millennium (1st millennium BCE) of Etruscan culture through archaeological sites, shipwrecks and trading posts, works of art and everyday material culture, including the landscape and built environment, technology, seafaring and war, womens world, and the unique religion for which Etruria was famous, ending with a surprising array of examples of Etruscan heritage embraced by society from the time of Augustus to the present day.

336. (AAMW536, ARTH421, NELC121, NELC521) ARCHAEOLOGY OF ANATOLIA. Brian Rose.

This class is devoted to the archaeology and history of Anatolia (ancient Turkey) from the beginning of the Bronze Age (3000 BC) to the end of the Byzantine period (1453 AD). Emphasis will be placed on the great empires in Anatolia (Hittite, Phrygian, Lydian, Urartian, Persian, Roman, and Byzantine), and on the great cities (Troy, Sardis, Ephesus, Constantinople). The course is intended to complement the major exhibit on Gordion, the Phrygians, and Anatolian archaeology that will open at the Penn Museum in February of 2016 and run for 10 months.

SM 337. ILIAD.

Homer's Iliad presents a dark and difficult vision of the world, but one that nonetheless inspires. Casual cruelty, divine caprice, and savage violence test heroes and lesser folk and provoke a reckoning with the stark realities of both human vulnerability and capability. It inspires kind of terror, but still also somehow provides a kind of comfort, albeit one whose character seems almost beyond comprehension. By a close and careful reading of Homer's text, along with some reflections and readings drawn from more contemporary wars, including the current

ones, we will try to examine these issues with one eye on the past and one on the present. Our goal will be to achieve some further understanding of war and human experience. This course will be offered online.

340. (AAMW542) Seafaring in the Ancient Greek World. (M) Tartaron.

This course explores ships, seafaring, and seafarers of the ancient Greek world from the Bronze Age (Minoans and Mycenaean) to the Age of Alexander (Hellenistic period). Sources include shipwrecks and related artifacts, artistic representations, and ancient literature. The emphasis is not so much on the technical aspects of shipbuilding and navigation as on the ways that seafaring shaped Greek history and connected the Greeks to a wider world through trade, warfare, colonization, and adventure.

SM 341. (ARTH325) TOPICS MEDITERRANEAN ART.

SM 342. (ARTH328) TOPICS: MED ARCH. (M)

SM 350. Greek and Roman Universe. (M) Farrell.

This course covers the history of Greek and Roman exploration and mapping of the earth and the cosmos from the Bronze Age to Late Antiquity, together with advances in timekeeping and the measurement of time. Readings include poetic, historical, and scientific texts.

SM 351. Vergil. Farrell.

Vergil is one of the most influential poets of Greek and Roman antiquity. In course, we will study his in relation to the tradition on which they build and in terms of critical and artistic reaction to them from antiquity to the present. Students will present reports on biographical, historical, mythological, critical, and other interpretive contexts, and will write an original research paper on a major topic pertaining to Vergil's poetry and its influence.

SM 353. (ANCH353) Rhetoric and the Community. (M) McInerney.

Prerequisite(s): Permission needed from instructor.

Rhetoric and the Community is a class designed to improve the quality of students' speaking abilities. Through debates, impromptu speeches and various other types of oral reports, students will develop their skills as speakers. The emphasis here is on practical advice, constant positive criticism and an active exploration of the art of oratory. We will emphasize the role

of effective oral communication in contributing to a higher level of engagement and discourse in the community. This class will particularly help those planning careers in advocacy, public service, teaching and other areas where confident, thoughtful, and articulate communication are important.

355. Archaeology of Greco-Roman Religion. (C) Bowes.

Using the evidence of archaeology, this course will survey religious practices in the ancient Mediterranean from the Greek Dark Ages to early Christianity. Organized chronologically and thematically, the course will consider issues like the function of animal sacrifice, the homes for the gods (temples, churches, etc), religion and the city, ruler cult, funerary rites, home-based rituals, and 'alternative' cults. We will pay particular attention to the methodological issues raised by the archaeology of religion and how our own modern assumptions about religion impact our study of the ancient world.

357. (ANCH357, RELS257) Religion and the Polis. (M) McInerney.

359. CITY OF ROME. (B)

SM 360. (COML296, ENGL229) Classical Epic and Medieval Romance. (M) Copeland.

This course looks at a number of strands in the broad epic tradition: narratives of warfare, quest narratives (both geographical and spiritual), and the combination of the two in narratives of chivalry and love. We will start with the Homeric poems, reading Iliad and Odyssey, and then we will see how Homeric themes are reprised in Virgil's narrative of travel, conquest, and empire, the Aeneid. From there we will move to one medieval epic of warfare, Beowulf. In the last part of the course we will read some Arthurian romances, which take up certain themes familiar from epic, but place them in a new context: the medieval institution of chivalry, where the ancient warrior is replaced by the medieval knight, where the collective battle is replaced by the individual quest, and where the psychology of sexual desire is now foregrounded as a motivation for heroic self-realization.

SM 361. (ENGL229) Romance in Pagan Antiq. (C)

Romance in Pagan Antiq.

362. (ANTH362, CLST562) Intro to Digital Archaeology. Peter Cobb.

Prerequisite(s): Prior archaeological classwork and/or experience preferred.

Digital methods allow archaeologists to approach research questions about the human past with increasing accuracies on larger datasets and at multiple scales. This class introduces students to the three main steps of digital archaeology: data management, analysis, and sharing. Data management involves the design, creation, and curation of digital objects that capture the archaeological process and evidence. Students will gain deep familiarity in working with the main types of digital archaeological data: structured data (relational databases), 3D models/spatial data, and raster images. The class will provide abundant hands-on experience with the latest equipment and software for working with many different kinds of data. We will learn about data analysis techniques through a close examination of a variety of case studies in the literature that demonstrate how other archaeologists have applied digital methods to their archaeological questions. Finally, we will discuss the importance of sharing data through open access data publication and we will apply our skills with structured data to existing online archaeological datasets. The goal of this class is to prepare students to make methodological decisions during future research endeavors, both in the field and in the archaeological lab.

SM 367. (ANTH367) Etruscan Art and Archaeology. Turfa.

The Etruscans, who spoke a language unlike any others known, were cast by their Greek and Roman rivals as outsiders and enemies: pirates, lovers of luxury, loose women. Today we must rely on the archaeological evidence of painted tombs, decorated Tuscan temples and massive engineering works to correct the picture. The course will survey a millennium (1st millennium BCE) of Etruscan culture through archaeological sites, shipwrecks and trading posts, works of art and everyday material culture, including the landscape and built environment, technology, seafaring and war, women's world, and the unique religion for which Etruria was famous, ending with a surprising array of examples of Etruscan heritage embraced by society from the time of Augustus to the present day.

SM 371. (GREK401, HSOC353) Greek & Roman Medicine. (M) Rosen.

The history of Western medicine is remarkably recent; until the nineteenth century prevailing theories of the body and

mind, and many therapeutic methods to combat disease, were largely informed by an elaborate system developed centuries earlier in ancient Greece, at a period when the lines between philosophy, medicine, and what we might consider magic, were much less clearly defined than they are today. This course will examine the ways in which the Greeks, and then the Romans, conceptualized the body, disease, and healing, and will compare these to medical culture of our time. We will consider sources from Hippocrates, Plato, and Aristotle to Galen and Soranus, and will juxtapose these writings with modern discourse about similar topics. We will also pay some attention to ancient pharmacology and religious healing, and will visit the Penn Museum to see their collection of ancient medical instruments. All readings will be in English and no previous background in Classical Studies is required. This course will be especially appealing (and useful) to Pre-med and Nursing students, and to students interested in the History of Science, Ancient Philosophy, and Classics.

SM 396. (COML383, ENGL394) History of Literary Criticism. (M) Copeland. Benjamin Franklin Seminar.

This is a course on the history of literary theory, a survey of major debates about literature, poetics, and ideas about what literary texts should do, from ancient Greece to examples of modern European thought. The first half of the course will focus on early periods: Greek and Roman antiquity, especially Plato and Aristotle; the medieval period (including St. Augustine, Dante, and Boccaccio), and the early modern period (such as Philip Sidney and Giambattista Vico). We'll move into modern and 20th century by looking at the literary (or "art") theories of some major philosophers, artists, and poets Kant, Hegel, Shelley, Marx, the painter William Morris, Freud, and the critic Walter Benjamin. We'll end with a look at Foucault's work. The point of this course is to consider closely the Western European tradition which generated questions that are still with us, such as: what is the "aesthetic"; what is "imitation" or mimesis; how are we to know an author's intention; and under what circumstances should literary texts ever be censored.

During the semester there will be four short writing assignments in the form of analytical essays (3 pages each), and students can use these small assignments to build into a long writing assignment on a single text or group of texts at the end of the term. Most of our readings will come from a published anthology of literary

criticism and theory; a few readings will be on Canvas.

399. Independent Study. (C) Staff.

This course is taken by students doing independent work with a faculty advisor, such as students approved to work on a senior research paper in pursuit of honors in the major.

SM 4. (ANTH419) MINING ARCHAEOLOGY.

SM 402. Post-Baccalaureate Studies in Greek. (D) Cynthia Damon. Corequisite(s): CLST 403.

Intensive Greek reading course for students in the Postbac program. This semester the text will be Plutarch's Life of Antony. There will be in-depth analysis of syntax and style. Homework, apart from the readings, will take the form of exercises, based on the readings, illustrating the nuances of Greek syntax in the hands of a master writer.

L/R 403. Post-Baccalaureate Studies in Latin. (D) Staff. Corequisite(s): CLST 402.

Advanced study in Latin for students enrolled in the Post-Baccalaureate Program in Classical Studies. Permission of the instructor required.

SM 406. Topics Classical Studies. (B) Staff.

SM 419. (ANTH419) MINING ARCHAEOLOGY. (C)

427. (AAMW427, ARTH427) Roman Sculpture. (M) Kuttner.

Survey of the Republican origins and Imperial development of Roman sculpture--free-standing, relief, and architectural--from ca. 150 BC to 350 AD. We concentrate on sculpture in the capital city and on court and state arts, emphasizing commemorative public sculpture and Roman habits of decorative display. Key themes are the depiction of time and space, programmatic decoration, and the vocabulary of political art.

435. (ANTH435, ARTH433, NELC486) CONSERVATION IN ARCHAEOLOGY.

436. (PHIL436) Hellenistic Philosophy. (M) Meyer.

Greek philosophy in the Hellenistic period (323-31 BCE) is dominated by three schools, which continue to be influential well into the era of the Roman Empire: Stoicism, Epicureanism, and Scepticism. Our focus this year will be on the Stoics,

with emphasis on their natural philosophy, theology, and ethics. Significant Stoic claims we will examine include: the theory of fate, the insistence that the world is governed by divine providence, and the view that following nature is the key to living a good life, while such things as health, family, and material well-being are of no value. Sources to be read include Cicero, *ON THE NATURE OF THE GODS*, and *ON DIVINATION*; Marcus Aurelius, *MEDITATIONS*; Epictetus, *HANDBOOK*; and Seneca, *ON ANGER* and selected letters. All texts will be read in English translation; no knowledge of Greek or Latin will be presupposed.

499. Independent Study. (C) Staff.

SM 500. Materials and Methods, proseminar in CLASSICAL STUDIES AND ANCIENT HISTORY. (A) Emily Wilson.

This is the required proseminar for first year graduate students in classical and ancient history. It will introduce you to some key methodological, practical and theoretical tools for beginning a scholarly career in these fields.

SM 502. Greek Meter. (M) Ringe. Prerequisite(s): A fluent reading knowledge of ancient Greek.

This course will cover the theory of ancient Greek verse forms, the relation between traditional Homeric metrics and formulaic analysis, the development and use of specific metrical systems by post-Homeric poets, and the use of meter in Greek verse to create literary and dramatic effects. Work for the course will include the reading and scansion of a substantial body of ancient Greek verse in class; the grade will be based on classwork and a final paper.

SM 503. Historical Grammar of Greek. (M) Ringe. Prerequisite(s): A fluent reading knowledge of ancient Greek.

Investigation of the grammar of Classical Greek from the viewpoint of historical linguistics. The course will offer historical explanations for numerous structural peculiarities of the Greek language and anomalies of Greek grammar, touch on the relationship of Greek with other languages, and incidentally introduce the student to some basic concepts of language analysis likely to be useful in teaching Greek and learning other languages.

SM 512. (AAMW512, ANTH514) Petrography of Cultural Materials. (M) Boileau.

Introduction to thin-section petrography of stone and ceramic archaeological materials. Using polarized light microscopy, the first half of this course will cover the basics of mineralogy and the petrography of igneous, metamorphic and sedimentary rocks. The second half will focus on the petrographic description of ceramic materials, mainly pottery, with emphasis on the interpretation of provenance and technology. As part of this course, students will characterize and analyze archaeological samples from various collections. Prior knowledge of geology is not required.

SM 517. MLA PROSEMINAR.

SM 518. (ENGL524) Medieval Education. (M) Copeland.

This course will cover various important aspects of education and intellectual culture from late antiquity (c. 400 A.D.) to the later Middle Ages (c. 1400 A.D.) across Europe. We will look especially at how the arts of language (grammar, rhetoric, dialectic) were formalized and "packaged" in late antique/early medieval encyclopedias (e.g., Martianus Capella's "Marriage of Mercury and Philology," Cassiodorus' "Institutes of Divine and Secular Learning," Boethius and Augustine on rhetoric, Donatus and Priscian on grammar, Boethius on dialectic, Isidore of Seville on all the sciences), and at how later theorists and systematizers recombined and reconfigured knowledge systems for new uses (especially monastic education, including notably Hugh of St. Victor's "Didascalicon"). We will also look at how the earlier and later Middle Ages differentiated between "primary" and "advanced" education, how children and childhood are represented in educational discourse, how women participate in (or are figured in) intellectual discourse (Eloise, Hildegard of Bingen, Christine de Pizan), how universities changed ideas of intellectual formation, and how vernacular learning in the later Middle Ages added yet another dimension to the representation of learning.

Among the later texts to be covered will be Abelard's "Historica Calamitatum," John of Salisbury's "Metalogicon," selections from Aquinas and other university masters, Jean de Meun's "Roman de la Rose," Christine de Pizan's "Chemin de Long Estude," Gower's "Confessio Amantis" (book 7), and possibly selections from Dante's "Convivio."

Students from all disciplines across the humanities are welcome. Classics are

encouraged to enroll, as well as, of course, medievalists and early modernists. Readings will all be available in English translation, but many of the readings can be done in the original languages (Latin, Old French or Middle French, Italian) as students wish (on an individual or collective basis). Class discussions, however, will always have reference to available translations. One seminar paper (15+ pages) will be required, along with (probably) one report.

SM 523. Greek and Roman Magic. (M) Staff.

The Greeks are often extolled for making great advancements in rational thinking. Their contributions to philosophy, architecture, medicine, and other fields argue that they surely did advance rational thought. However, this view gives us an incomplete picture. Many Greeks, including well-educated, prominent Greeks, also found use for casting spells, fashioning voodoo dolls, toting magical amulets, ingesting magic potions, and protecting their cities from evil with apotropaic statues. In this course you will learn how to make people fall in love with you, bring harm to your enemies, lock up success in business, win fame and respect of your peers, and also some more general things about Greek and Roman society and religion -- you will also learn what "apotropaic" means.

SM 526. (AAMW526) Material & Methods in Mediterranean Archaeology. (M) Tartaron.

This course is intended to familiarize new graduate students with the collections of the University of Pennsylvania Museum of Archaeology and Anthropology and the wide range of scholarly interests and approaches used by faculty at Penn and neighboring institutions, as well as to provide an introduction to archaeological methods and theory in a Mediterranean context. Each week, invited lecturers will address the class on different aspects of archaeological methodology in their own research, emphasizing specific themes that will be highlighted in readings and subsequent discussion. The course is divided into five sections: Introduction to the Mediterranean Section; Collections; Method and Theory in Mediterranean Archaeology; Museum Work; and Ethics. The course is designed for new AAMW graduate students, though other graduate students or advanced undergraduate students may participate with the permission of the instructor.

SM 530. (COML530, ENGL707) Pre-Modern Rhetorics. (A) Copeland.

This course offers an overview of the ancient, medieval, and early modern rhetorical traditions, and aims to work very broadly across cultural and textual histories. It should be useful for students in any fields working in early and later periods (including post-Renaissance) who want a grounding in the intellectual and institutional history of rhetoric, the "discourse about discourse" that was central to curricular formations, aesthetics and theories of the passions, politics, ideas of history, and ideas of canons. We will read materials from sophistic rhetoric, from Plato and Aristotle, from Cicero, Quintilian, and rhetorical theorists from late antiquity (including Augustine); we will work through medieval materials from monastic and cathedral schools to the universities, considering how Ciceronian rhetoric carries an overwhelming influence into the Middle Ages; we will consider the professional stratification of various kinds of rhetorical production and theory in the late Middle Ages and look at some crucial literary embodiments of rhetoric; we will consider religious dimensions of rhetoric and especially its uses in women's religious communities and devotional writings; we will give some attention to the late medieval recovery of Aristotle's Rhetoric and to the continuous tension between rhetoric, philosophy, and theology.

And we will look at early modern recoveries of certain ancient texts and themes (e.g. Quintilian, the sophists, political education) in terms of new capacities for analysis of stylistics, affect, and deliberative (political) oratory (and we'll give special attention to early modern English rhetorics and poetics and to continental figures such as Erasmus). We will also read some modern reflections on the theory and historiography of rhetoric, and the class is open to any combination of theoretical and historical interests. All of our readings will be accessible in English.

SM 543. (AAMW539, ANTH533, NELC585) ARCHAEOBOTANY SEMINAR.

545. (AAMW545, ANCH545) Spatial Analysis of the Past. (M)

Archaeological fieldwork experience and basic digital skills preferred. Undergraduates can register with permission of the instructor.

Humans continuously move through, interact with, and modify their spaces, leaving a palimpsest of human activity all around us. The ability for digital methods to deal with larger datasets, at higher

accuracies, and at multiple scales, lends itself particularly well to the study of diachronic human-space interaction. In this class, we will examine space at a range of scales from landscapes, to urban settings, to archaeological contexts and architecture. We digitally represent space using a variety of 3d and 2d data types, from models of land surfaces and buildings, to multispectral satellite imagery and urban plans. We will first gain experience creating, gathering, and manipulating spatial datasets in preparation for analysis. We will next practice a variety of analytical techniques on these data and examine case studies that have used spatial methods to draw important archaeological and historical conclusions. Tools covered in this class will include geographical information systems (GIS), global navigation satellite systems (GNSS), raster image processing, photogrammetry, and 3d spatial modeling softwares. Finally, we will gain experience with the visualization of our data and results, and the presentation of those results through open online publication.

SM 552. (AAMW552, ANTH552, NELC587) ARCHAOMETALLURGY SEMNR.

562. (AAMW562, CLST362) Intro to Digital Archaeology. Peter Cobb. Prerequisite(s): Prior archaeological classwork and/or experience preferred.

Digital methods allow archaeologists to approach research questions about the human past with increasing accuracies on larger datasets and at multiple scales. This class introduces students to the three main steps of digital archaeology: data management, analysis, and sharing. Data management involves the design, creation, and curation of digital objects that capture the archaeological process and evidence. Students will gain deep familiarity in working with the main types of digital archaeological data: structured data (relational databases), 3d models/spatial data, and raster images. The class will provide abundant hands-on experience with the latest equipment and software for working with many different kinds of data. We will learn about data analysis techniques through a close examination of a variety of case studies in the literature that demonstrate how other archaeologists have applied digital methods to their archaeological questions. Finally, we will discuss the importance of sharing data through open access data publication and we will apply our skills with structured data to existing online archaeological datasets. The goal of this class is to prepare students to make methodological decisions during

future research endeavors, both in the field and in the archaeological lab.

568. (ANTH267, ANTH567, CLST268) Living World in Archaeological Science. Kassabaum, Monge, Moore.

By focusing on the scientific analysis of archaeological remains, this course will explore life and death in the past. It takes place in the new Center for the Analysis of Archaeological Materials (CAAM) and is team taught in three modules: human skeletal analysis, analysis of animal remains, and analysis of plant remains. Each module will combine laboratory and classroom exercises to give students hands-on experience with archaeological materials. We will examine how organic materials provide key information about past environments, human behavior, and cultural change through discussions of topics such as health and disease, inequality, and food.

SM 598. Language Pedagogy Workshop. James Ker.

The Workshop is intended to serve as a forum for first-time teachers of Latin or Greek. This will include discussing course-plans and pedagogical theories and strategies, collaborating on course materials, and addressing any concerns in the language courses presently being taught.

SM 600. (GREK600) Graduate Seminar. (A) Staff.

Topics will vary

SM 601. (AAMW601, ANCH601) Archaeology and Greek History. (M) Staff.

An examination of archaeological evidence relevant to selected problems in Greek history.

SM 602. (AAMW501, ANTH501) Introduction to Archaeological Ceramics. (A) Tartaron.

SM 603. (AAMW502, ANTH502) Introduction to Archaeological Ceramics II. (M) Boileau. Prerequisite(s): Introduction to Archaeological Ceramics I.

This course is a continuation of Introduction to Archaeological Ceramics I. Laboratory methods of ceramic analysis are introduced, with emphasis on ceramic petrography but also including several other techniques. This course is open only to those who have successfully completed Introduction to Ceramics I.

SM 610. (COML714, ENGL715) Classical Reception in the Middle Ages. (M) Copeland.

Bad things happened at mythical Thebes: it was ill-starred from the start. Most famously, it was the kingdom that Oedipus came to rule, and where his unknowing patricide and incest spawned destructive civil war (over a paltry kingdom) and bitter fratricide. This is the chaotic world that Statius depicted so brilliantly and painfully in his Thebaid. Early and later medieval readers were by turns fascinated and repelled by the Theban story they received from Statius, but fascination with the story overcame repulsion, and Statius himself emerged as one of the most revered of classical authors, second only to Virgil. In this seminar we will read the Thebaid and other mythographical sources on the Theban legend that were available to medieval audiences, and we will trace the receptions of the Theban story through the Middle Ages, from commentaries and citations to vernacular reinventions of the legend and the literary apotheosis of Statius in Dante and Chaucer.

Along the way we will look at the Thebes story in the French Roman de Thebes and the *Histoire ancienne jusqu'à Cesar*. The Thebes story is embedded and enfolded in medieval understandings of the recursiveness of human history as tragedy (Chaucer's *Troilus and Knight's Tale*), even as that narrative can also be joined up with powerful teleological outlooks (Virgilian imperialism, Boethian transcendence, Christian salvation). We will look beyond the Middle Ages briefly to the earliest English translation of the Thebaid published in 1648 (a significant year for the Englishing of a classical narrative about civil war). All texts can be read in their original languages (Latin, French, Italian) or in English translations, so the readings will be accessible to all interested students no matter what their linguistic backgrounds. The day and time currently set for this class in the course register system is Friday afternoons; but this is negotiable, and if students desire we can agree on another day and time for the course as long as we stay clear of other schedule conflicts.

SM 611. (AAMW611, ANCH611, GREK611) Greek Epigraphy. (M) McInerney.

An introduction to the principles and practices of Greek Epigraphy. Study of selected Greek inscriptions.

SM 614. (AAMW614, AAMW723, ARTH720) Seminar in Aegean Prehistory: Mycenae. (M) Tartaron.

This seminar provides an intensive treatment of the site of Mycenae and its environs in the Middle and Late Bronze Ages. A careful reading of the survey and excavation reports from the site prompts a number of questions about the origin, development, consolidation, and collapse of complex society in the Mycenaean period. We will also cast a wider net to consider Mycenae in its regional and interregional context. Permission of instructor required.

SM 616. (ANCH616) Ancient Economies. (C) Bowes and Grey.

Scholars have long debated the nature of the ancient economy, the terms in which it can best be approached, and the decision-making processes that underpinned economic behavior in antiquity. In particular, controversy has surrounded the extent to which the economies of Greco-Roman antiquity can be modeled using contemporary tools of analysis. In recent scholarship, many of the tenets laid down by Moses Finley in his *The Ancient Economy* have been re-evaluated, with the result that the field is currently in a state of intellectual ferment. It is the purpose of this course to explore the terms in which contemporary debates over ancient economic systems are formulated, with reference to a variety of societies and periods, from the palace economies of the Mycenaean period to the system of taxation introduced in the early fourth century by the emperor Diocletian and his colleagues in the Tetrarchy.

SM 617. Methods and Theories in Classical Studies: The Case of the Myth. (C) Struck.

This course will study the remarkably wide range of ideas that emerged around ancient myth during the 20th century. We will survey these developments especially at they are relevant to classical studies, but also as a central engine of theories in the humanities more generally. Authors studied will include: Nietzsche, Jane Harrison, Freud, Jung, Mircea Eliade, Branislaw Malinowski, Claude Levi-Strauss, Paul Ricoeur, and Walter Burkert. Greek and some Latin texts will be referred to but the bulk of the work in the class will go toward self-conscious reflection on the power of myth to drive humanistic inquiry in classics and beyond.

620. (AAMW620, ARTH220, CLST220) Topography of Rome. (A) White.

The topographical development of ancient Rome from its prehistoric beginnings to the

late Imperial times with emphasis on the city's key historical and architectural monuments.

SM 625. (AAMW625) City and Landscape in Roman Corinth. (M) Romano.

This seminar considers the procedures and the results of the Roman agrimensors who planned the city and landscape of the Roman Colony of Corinth of 44 B.C. Founded on the site of the former Greek city by Julius Caesar, Roman Corinth was to become one of the great cities of the Roman world. Considerable attention will be paid to the modern methods employed by the Corinth Computer Project, 1988-1997, as well as the resulting new information about the history of Roman Corinth.

SM 631. (AAMW530, ARTH530) Art and Archaeology of the Mediterranean World Seminar.

Haselberger.
Topic Varies

SM 698. Prospectus Workshop. (C) Wilson. Graduates only; only for 3rd year graduate students in classical studies and comparative literature.

This is a workshop to prepare students for writing the thesis in Comparative Literature and Classical Studies.

SM 702. (AAMW702, ANCH702) Greek Sanctuaries. (M) McInerney.

The formation and development of key religious sites, including Olympia, Delphi, Cyrene, Selinus, Cos and Lindos.

SM 703. (AAMW703) The Ancient House. (A) Staff. Some previous coursework in archaeology, art history, or ancient history, as well as reading knowledge in at least one modern language, required.

This course considers the ancient Mediterranean house, with an emphasis on Roman houses, but with plenty of cross-cultural comparison. We will consider the archaeological evidence for ancient houses, from Pompeii to Palestine. We will examine theories of domestic space as they apply to ancient buildings, the relationship between social units, like the family, and domestic space, and the house as thought category.

SM 705. (AAMW705) ETHNOARCHAEOLOGY GREECE. (M) Tartaron.

Ethnoarchaeology involves distinctive theoretical and methodological approaches to the study of living societies for the

explicit purpose of shedding light on archaeological questions. In this seminar, we will review the intellectual history of ethnoarchaeology in North America and Europe, and explore case studies from Greece, the wider Mediterranean, and beyond. Among the topics will be analogy, cross-cultural comparison, experimental archaeology, oral history research, and archaeologically oriented ethnographic fieldwork. Students will create a proposal for ethnoarchaeological fieldwork in their area of interest in NSF or Wenner-Gren format, to be critiqued by the instructor and their peers.

SM 706. (AAMW706, ARTH706) Archaeology of the Hellenistic Period in Italy, Greece, and Asia Minor. Brian Rose.

A survey of the archaeology of the Hellenistic period (331-31 BCE) across the Mediterranean, with a focus on Rome, Magna Graecia, Greece, and western Asia Minor. The course will stress the interactions among cities and kingdoms during the Roman Republic and Greek Hellenistic periods, especially the second century B.C. Students will work with relevant objects in the Penn Museums Mediterranean Section.

SM 710. (AAMW710, ANTH708) Curatorial Seminar: Gordion, Royal City of Midas. (M) Rose.

The course will focus on the planning for and design of an exhibit on Gordion and the Phrygians that will take place at the Penn Museum in 2016. The exhibit will feature substantial loans from museums in Turkey, including the "Midas Mound" at Gordion and the "Lydian Treasure" from the area around Sardis.

SM 715. (AAMW715) Archaeology of Troy. (M) Rose.

An introduction to the archaeology of Troy, in northwestern Turkey. The course will focus on the results of excavations at the site in 1988, although the earlier excavations of Schliemann, Dorpfeld, and Blegen will also be considered. The course will cover a broad chronological span--from the early Bronze age through the late Roman period, and will include Greek, Roman, and Medieval attitudes toward Troy and the Trojan legend.

SM 728. (AAMW729, ARTH729) Roman Architecture & Topography. (M) Rose.

Topic varies.
Fall 2015: This seminar will investigate two ancient architectural masterpieces, the 2nd c. AD Pantheon in

Rome and the 6th c. AD Hagia Sophia in Istanbul. The two monuments stand at the forefront of the architectural trends under Hadrian and Justinian respectively, and are best known for their unique designs and domes of unprecedented scale. The seminar will analyze issues of design, structure, aesthetics, and symbolism. No prerequisites; skills in digital visualization are welcome.

SM 735. (JWST735, RELS735) Papyrology. (F) Staff. Prerequisite(s): Qualified undergraduates may enroll with permission from the instructor.

Selected topics from current research interests relating to early Judaism and early Christianity. *****Spring 2013 Topic: This seminar will trace changing ideas about history in writings by and about Jews in antiquity, exploring relevant biblical, Second Temple, and rabbinic materials preserved in Hebrew and Aramaic, alongside writings in Greek by Jews, Christians, and others. Some background in Hebrew and/or Greek required.

999. Independent Study and Research. (C) Staff. Prerequisite(s): Permission of Graduate Chair and instructor required.

For doctoral candidates.

298. STUDY ABROAD.

SM 603. GREEK SEMINAR.

599. INDEPENDENT STUDY.

SM 604. LATIN SEMINAR.

SM 620. Pliny's Natural History. Cynthia Damon.

We will read selections from Pliny's monumental Natural History with attention to language, literary tradition, historical context, and intellectual impact.

GREEK (GREK)

015. Elementary Modern Greek I. (M) Staff. Offered through Penn Language Center.

This course is designed for students with no prior knowledge of the modern Greek Language. Instructions are theme based and is supported by a Textbook as well as other written or audiovisual material. It provides the framework for development of all communicative skills (reading, writing, comprehension and speaking) at a basic level. The course also introduces students to aspects of Modern Greek culture that are close to students' own horizon, while it exposes them to academic presentations of

Greek history, arts, and current affairs. Quizzes, finals and short individual work with presentation are the testing tools. The completion of this unit does NOT satisfy the language requirement.

016. Elementary Modern Greek II. (M) Staff. Prerequisite(s): GREK 015 or equivalent. Offered through Penn Language Center . this section is reserved for heritage learners or by permission of instructor.

Continuation of Elementary Modern Greek I, with increased emphasis on reading and writing.

017. Intermediate Modern Greek I. (M) Staff. Prerequisite(s): GREK 015 and 016 or equivalent. Offered through Penn Language Center.

This course is designed for students with an elementary knowledge of Demotic Modern Greek, and aims mainly at developing oral expression, reading and writing skills.

018. Intermediate Modern Greek II. (M) Staff. Prerequisite(s): GREK 015, 016, and 017 or equivalent. Offered through Penn Language Center .

Further attention to developing oral expression, reading, and writing skills for students with knowledge of Demotic Modern Greek.

SM 101. Elementary Classical Greek I. (A) Staff.

Intensive introduction to Classical Greek morphology and syntax. This course includes exercises in grammar, Greek composition, and translation from Greek to English. Emphasis is placed upon developing the ability to read Greek with facility.

SM 102. Elementary Classical Greek II. (B) Nishimura-Jensen. Prerequisite(s): GREK 101 or equivalent.

Students complete their study of the morphology and syntax of Classical Greek. We begin the semester with continuing exercises in grammar and translation, then gradually shift emphasis to reading unadapted Greek texts.

SM 112. Intensive Elementary Classical Greek. (L)

An introduction to the ancient Greek language for beginners, with explanation of basic grammatical concepts and intensive exercises in reading and writing. Ideal for undergraduates or graduate students from Penn or elsewhere with some background in learning other languages, or who need to learn Greek rapidly. The course covers the first year of college-level Greek, equivalent

to GREK 101 + 102 at more than twice the normal pace. For further information on Penn's Greek curriculum, visit the Classical Studies department website.

115. Greek/Heritage Speakers I. (C)
Tsekoura.

This course is intended to help Heritage Speakers or student with prior knowledge of conversational modern Greek (or even Ancient Greek) to refresh or enrich their knowledge of modern Greek and who would not be a good fit for the elementary or intermediate classes. A theme based textbook and instructions along with a comprehensive overview of grammar as a whole is presented while original text, songs, video and other media are used in order to augment vocabulary and increase fluency in modern Greek. Students are expected to properly use the language, do theme-based research on the themes examined and provide written work on various subjects and make conversation in class. Presentations on researched topics account for final exam.

116. Greek/Heritage Speakers II. (B)
Staff.

It is the continuation of GREK 115 with completing Grammar (passive voice as well as unusual nouns and adjectives etc.) and adding more challenging reading and writing material. The completion of this course satisfies the language requirement. ALL students completing the HSI 115 are eligible to enroll. ALL OTHERS will have to take a placement test.

SM 203. Intermediate Classical Greek: Prose. (A) Staff. Prerequisite(s): Ancient Greek 102, Greek 112 or equivalent.

This course is for those who have completed Ancient Greek 102, Greek 112 or equivalent. You are now ready to begin reading real Greek! We will read a selection of passages from Greek prose authors, focusing on language and style.

SM 204. Intermediate Classical Greek: Poetry. (B) Glauthier. Prerequisite(s): GREK 203 or equivalent.

This course introduces students to the Homeric dialect and the study of the Homeric poems and archaic Greek world. We will spend most of the semester reading the Odyssey. For the last few weeks of class, we will switch modes (and sometimes dialects) to read selections of archaic Greek lyric (e.g. Archilochus, Mimnermus, Theognis, Sappho).

SM 212. Intensive Intermediate Greek. (M) Staff. Completion of this course fulfills the Penn language requirement. For further information on Penn's Latin curriculum, including placement and language requirement, visit the Classical Studies department website.

An introduction to the basic history and conventions of Greek prose and poetry, with continuous readings from classical authors accompanied by grammar review and exercises. Ideal for undergraduates or graduate students from Penn or elsewhere who have completed the equivalent of one year Greek (e.g., GREK 112). The course covers the second year of college-level Greek, equivalent to GREK 203 + 204 at more than twice the normal pace.

SM 309. Advanced Greek: Ancient Vegetarianism. (M) Struck. Prerequisite(s): GREK 204.

The focus of this course will be Platos critiques of poetry, with particular emphasis on inspiration, mimesis, aesthetic experience, the materiality of language, the social value of poetry, and the relationship between poetry, philosophy, and other forms of discourse. Our primary Platonic texts will be Ion (complete) and Republic (selections). Additional readings, in both Greek and English, will come from poets (e.g. Hesiod, Aristophanes) and writers of various forms of prose (e.g. Gorgias, Aristotle, Longinus). Secondary readings will inform class discussion, allow students to explore the origins and development of ancient literary theory in greater depth, and as a basis for original research.

399. Supervised Study in Greek Literature. (C) Staff.

This course is taken by students doing independent work with a faculty advisor, such as students approved to work on a senior research paper in pursuit of honors in the major.

SM 401. (CLST371) Greek for Advanced Students. (M) Staff.

For graduate students in other departments needing individualized study in Greek literature.

Spring 2013 Topic: The history of Western medicine is remarkably recent; until the nineteenth century prevailing theories of the body and mind, and many therapeutic methods to combat disease, were largely informed by an elaborate system developed centuries earlier in ancient Greece, at a period when the lines between philosophy, medicine, and what we might consider magic, were much less clearly defined than they are today. This course will examine the ways in which the

Greeks, and then the Romans, conceptualized the body, disease, and healing, and will compare these to medical culture of our time. We will consider sources from Hippocrates, Plato, and Aristotle to Galen and Soranus, and will juxtapose these writings with modern discourse about similar topics. We will also pay some attention to ancient pharmacology and religious healing, and will visit the Penn Museum to see their collection of ancient medical instruments. All readings will be in English and no previous background in Classical Studies is required. This course will be especially appealing (and useful) to Pre-med and Nursing students, and to students interested in the History of Science, Ancient Philosophy, and Classics.

SM 540. The Greek Text: Language and Style. (M) Ker.

What do we need to read texts in ancient Greek? In this course we read just one prose text and one poetic text, or a very limited number of texts and passages, with a focus on language and formal analysis (such as diction, grammar, stylistics, metrics, rhetoric, textual criticism). A range of exercises will be used to develop these skills, including composition, lexical studies, recitation, memorization, exegesis, written close-readings, and sight-translation.

SM 541. Greek Literary History. (M) Struck.

We survey an extensive range of readings in a variety of authors in both prose and poetry and consider the problems and opportunities for composing a literary history.

SM 600. (CLST600) Graduate Greek Seminar, Prose and Poetry. (A) staff.

Topics will vary

Fall 2014 topic: Through close reading of selected books of the Iliad, we will consider the range of approaches, from oral poetics to post-classical reception, that inform current interpretations of the Homeric epics.

SM 601. (ANCH603) Graduate Greek Prose. (M) Wilson.

Topics will vary

SM 602. (COML606, ENGL705) Graduate Greek Poetry. (M) Ralph Rosen.

This advanced graduate seminar in Greek literature will focus in detail on several plays of Aristophanes and selections from his contemporaries in Old Comedy, Cratinus and Eupolis. Special attention

will be paid both to questions of genre and comic dynamics, and to the historical and political contexts in which these plays were first performed.'

SM 605. Historians. (M) Staff.

A study of Herodotus and/or other historians.

SM 607. Homeric Language. (M) Staff.

A close look at the artificial Homeric dialect from the point of view of historical linguistics. Some reading of Homer will also be involved, but for the purpose of investigating the language, it will be taken for granted that students can translate the text.

SM 608. Greek Dialects. (M)

Ringe/Cardona.

A study of Greek dialects.

SM 611. (AAMW611, ANCH611, CLST611) Greek Epigraphy. (M) McInerney.

An introduction to the principles and practices of Greek Epigraphy. Study of selected Greek inscriptions.

998. Supervised Reading. (C)

999. Independent Study. (C) Staff.

For doctoral candidates.

LATIN (LATN)

SM 101. Elementary Latin I. (A) Staff.

An introduction to the Latin language for beginners. Students begin learning grammar and vocabulary, with practical exercises in reading in writing. By the end of the course students will be able to read and analyze simple Latin texts, including selected Roman inscriptions in the Penn Museum.

SM 102. Elementary Latin II. (B) Staff.

Prerequisite(s): LATN 101 or equivalent.

Prerequisite(s): LATN 101 or equivalent. Completes the introduction to the Latin language begun in 101. By the end of the course students will have a complete working knowledge of Latin grammar, a growing vocabulary, and experience in reading Julius Caesar's account of the invasion of Britain.

SM 112. Intensive Elementary Latin. (L) Staff.

An accelerated introduction to the Latin language for beginners, equivalent in scope to the first year of Latin (101+102). Ideal for students with some background in learning languages, or who need to learn

Latin rapidly. Students begin learning grammar and vocabulary, with practical exercises in reading in writing. By the end of the course students will have a complete working knowledge of Latin grammar, a growing vocabulary, and experience in reading selected inscriptions in the Penn Museum and Julius Caesar's account of the Roman invasion of Britain.

SM 203. Readings in Latin Prose. (A)

Staff. Prerequisite(s): LATN 102 or equivalent.

Prerequisite(s): LATN 102 or equivalent (such as placement score of 550). Introduction to continuous reading of unadapted works by Latin authors in prose (e.g., Cornelius Nepos, Cicero, Pliny), in combination with a thorough review of Latin grammar. By the end of the course students will have thorough familiarity with the grammar, vocabulary, and style of the selected authors, will be able to tackle previously unseen passages by them, and will be able to discuss questions of language and interpretation.

SM 204. Introduction to Latin Poetry. (B) Staff. Prerequisite(s): LATN 203 or equivalent.

Prerequisite(s): LATN 203 or equivalent (such as placement score of 600). Continuous reading of several Latin authors in poetry (e.g., Ovid, Virgil, Horace) as well as some more complex prose, in combination with ongoing review of Latin grammar. By the end of the course students will have thorough familiarity with the grammar, vocabulary, and style and style of the selected authors, will be able to tackle previously unseen passages by them, and will be able to discuss language and interpretation. Note: Completion of Latin 204 with C- or higher fulfills Penn's Foreign Language Requirement.

SM 212. Intensive Intermediate Latin. (L) Staff.

Completion of this course fulfills the Penn language requirement. For further information on Penn's Latin curriculum, including placement and language requirement, visit the Classical Studies department website.

Prerequisite(s): LATN 102 or equivalent (such as placement score of 550).

Accelerated introduction to reading of Latin authors, at twice the normal pace, equivalent in scope to second-year Latin (203-204). Ideal for undergraduates or graduate students from Penn or elsewhere who have completed the equivalent of one year Greek (e.g., GREK 112). Readings in simpler prose and poetry (e.g., Cornelius Nepos, Ovid), then in more challenging

prose and poetry (e.g., Cicero, Pliny, Virgil, Horace), in combination with a thorough review of Latin grammar. By the end of the course students will have thorough familiarity with the grammar, vocabulary, and style of the selected authors, will be able to tackle previously unseen passages by them, and will be able to discuss language and interpretation. Note: Completion of Latin 212 with C- or higher fulfills Penn's Foreign Language Requirement.

SM 309. Topics in Latin Literature:

Catullus. (M) Damon. Prerequisite(s): Reading knowledge of Latin or permission of instructor.

This course is for those who have completed Latin 204, Latin 212, or equivalent (such as placement score of 650, or AP score of 4 or 5). Close reading and discussion of a Latin author or a particular genre of Latin literature. Topics will vary each semester, and the course may be repeated for credit. Assignments will include syntactic and literary analysis on a daily basis, a midterm, a paper, and a final exam. Topic for Spring 2016: Catullus

399. Supervised Study in Latin Literature. (C) Staff.

This course is taken by students doing independent work with a faculty advisor, such as students approved to work on a senior research paper in pursuit of honors in the major.

401. Latin for Advanced Students. (C) Staff.

For graduate students in other departments needing individualized study in Latin literature.

SM 540. The Latin Text: Language and Style. (M) Ker.

What do we need to read texts in Latin? In these courses we read just one prose text and one poetic text, or a very limited number of texts and passages, with a focus on language and formal analysis (such as diction, grammar, stylistics, metrics, rhetoric, textual criticism). A range of exercises will be used to develop this, including composition, lexical studies, recitation, memorization, exegesis, written close-readings, and sight-translation.

SM 541. Latin Literary History. (M) James Ker.

In this course we survey an extensive range of readings in a variety of authors in both prose and poetry, and consider the problems and opportunities involved in literary history.

SM 600. Graduate Latin Seminar. (A)
Damon.

Topics will vary

Fall 2014 topic: This course will explore Suetonius' 'Lives of the Caesars' together with the anonymous late antique text commonly referred to as the 'Scriptores Historiae Augustae'. It will examine both the genre of imperial biography as it is manifested in these two texts and the possibilities they offer for the reconstruction of political, cultural, and social histories of the periods in question.

SM 601. Graduate Latin Prose. (M)
Staff.

Topics will vary

SM 602. (COML600) Graduate Latin Poetry: Ennius. (M) Farrell.

Ennius writings, and particularly his epic poem *Annales*, proved to be foundational for many genres of Latin literature. Editions of his work by Jocelyn (tragedies) and Skutsch (*Annales*) have attracted more and more critical attention to these works in recent years. A spate of criticism over the past few years considers Ennius from a variety of points of view, including some that call for a radical reassessment of

basic assumptions concerning the *Annales* in particular. The purpose of this seminar is to introduce students to Ennius, to acquaint them with the tools and methods they will need to study Ennius in depth, and to involve them in current debates surrounding the poet.

SM 609. (HIST535) Problems in Ancient History. (A) Grey.

A separate topic is offered in either the history of Ancient Near East, Greece or Rome.

999. Independent Study. (C) Staff.

For doctoral candidates.

**COGNITIVE SCIENCE
(AS) {COGS}**

L/R 001. (CIS 140, LING105, PHIL044, PPE 140, PSYC207) Introduction to Cognitive Science. (A) Brainard/Ungar.

This is a Formal Reasoning course.

Cognitive Science is founded on the realization that many problems in the analysis of human and artificial intelligence require an Interdisciplinary approach. The course is intended to introduce undergraduates from many areas to the problems and characteristic concepts of Cognitive Science, drawing on formal and empirical approaches from the parent

disciplines of computer science, Linguistics, neuroscience, philosophy and psychology. The topics covered include Perception, Action, Learning, Language, Knowledge Representation, and Inference, and the relations and interactions between them.

The course shows how the different views from the parent disciplines interact and identifies some common themes among the theories that have been proposed. The course pays particular attention to the distinctive role of computation in such theories and provides an introduction to some of the main directions of current research in the field. It is a requirement for the BA in Cognitive Science, the BAS in Computer and Cognitive Science, and the

minor in Cognitive Science, and it is recommended for students taking the dual degree in Computer and Cognitive Science.

298. STUDY ABROAD.

301. Independent Study. (C) Staff.

398. Senior Thesis. (C) Staff.

This course is a directed study intended for cognitive science majors who have been admitted to the cognitive science honors program. Upon admission into the program, students may register for this course under the direction of their thesis supervisor.

**COLLEGE
(AS) {COLL}**
SM 135. The Art of Speaking. (A)

Weber. Students need to apply and are interviewed by the instructor and Associate Director of CWiC.

This course is designed to equip students with the major tenets of rhetorical studies and peer education necessary to work as a CWiC speaking advisor. The course is a practicum that aims to develop students' abilities as speakers, as critical listeners and as advisors able to help others develop those abilities. In addition to creating and presenting individual presentations, students present workshops and practice advising. During this ABCS course, students will practice their advising skills by coaching and mentoring students at a public school in Philadelphia.

SM 220. Literatures of the World. (M)

Arts & Letters Sector. All Classes. Staff from the various Language and Literature departments.

Literatures of the World" is an "umbrella course" covering a family of related courses numbered COLL 221 to 229 each dealing with a particular non-English literature in its original language. These courses, several of which are taught each semester, encourage the understanding of literature within the social contexts in which it was created and examine the works' continuing significance in the modern literary arena. They also introduce students to works of creativity and cultivate their powers of textual perception by providing them with tools for literary analysis, interpretation and criticism. Although the content of the various courses is drawn from specific literary traditions, the emphasis in each course is on developing and strengthening students' general capacity for understanding

meaning. The interpretive strategies for literary analysis that the students acquire are universal and applicable to any modern literary tradition. A crucial component of any of these classes is writing analytical essays, thereby training the students to formulate their thoughts in a coherent, well-articulated manner.

The current roster includes courses from the following departments: Germanic Languages & Literatures (German); Near Eastern Languages & Literatures (Arabic, Hebrew); Romance Languages (French, Spanish); Slavic Languages (Russian); and, South Asia Studies (Hindi).

299. STDY AT SWARTHMORE.**129. INTRO CRITICAL WRITING. (C)****130. RES WRIT SEM CULTURAL. (C)**

COMMUNICATIONS (AN) {COMM}

SM 108. The Speaking Body and the Marks of the Mind in Modern Western Culture. (M) Pearl.

Prerequisite(s): Freshman Seminar.

How does the body speak even in the absence of words? In what ways do thoughts, feelings, messages, and experiences mark the body, revealing the invisible internal and making it visible to the understanding eye? Have notions of bodily communication changed over time? How were prevailing ideas about the languages of the body marked by wider philosophical, artistic, literary, scientific, and medical trends?

In this course, we will explore the speaking body from the eighteenth century through the early twentieth. Starting with the doctrine of maternal impressions, we will look at the ways in which the body became marked, and how these markings were expressed and understood. We will then explore physiognomy, phrenology, hysteria, and shell shock, ending the semester with a provocative discussion of psychosomatic medicine, and the modern manifestations of phrenology and physiognomy.

Drawing on a variety of material and types of evidence, we will explore literary and historical documents, as well as works of art and visual culture. The assignments will be equally wide-ranging, including response papers, a primary source analysis, presentations, internet searches, visual analyses, and diary entries. The course will culminate in a written paper which will be produced in stages with careful and detailed guidance. In preparation for these assignments, we will dive in to the depths of Van Pelt to explore its treasures, and we will meet with a resource librarian to prepare ourselves to take full advantage of the resources on offer. We will also take at least one field trip to the Mutter Museum to examine their holdings and exhibits.

We will emerge from this seminar with a greater understanding of the speaking body, as well as with a variety of methodological scholarly tools for conducting interdisciplinary research. This course will be highly demanding, requiring all participants to engage fully with the material and to challenge themselves to think creatively and rigorously about the themes of the course. Students will receive a great deal of assistance and writing and research, and will also work closely with one another to share the unique skills and talents that each brings to the course material.

123. Critical Approaches to Popular Culture. (A) Paxton.

Popular culture has been variously dismissed as mere trivia, "just entertainment;" it has been condemned as propaganda, a tool of mass deception; and its consumers have been dubbed fashion victims and couch potatoes. This course considers these critiques, as well as those that suggest that popular culture offers valuable material for the study of social life. We will consider the meanings and impact of popular culture, including its effects on how we see ourselves, others, and American life; who makes distinctions between high, middlebrow, and low or mass culture; and how power and resistance structure the production and consumption of popular texts.

L/R 125. Introduction to Communication Behavior. (A) Society Sector. All classes. Jordan.

This course is an introduction to the fundamentals of communication behavior. It focuses on social science studies relating to the processes and effects of mass communication. Research reviewed includes media use behavior and media influences on knowledge, perceptions of social reality, aggressive behavior, and political behavior.

130. Mass Media and Society. (B) Society Sector. All classes. Turow.

How might we think about the legal, political, economic, historical, and "cultural" considerations that shape what we watch on TV, read in books, stare at in billboards? What ideas are relevant for examining the enormous changes in the mass media system and the consequences of those changes? The aim of this course is to begin to answer these questions by acquainting you with the workings of American mass media as an integral part of American society.

203. (SOC1238) Media, Culture & Society in Contemporary China. (M) Yang.

This course studies contemporary Chinese media, culture, and society in the context of globalization. Major topics include Internet expression and censorship, mass media commercialization, entertainment media, middle class and consumerism, environmental degradation, new forms of inequality, and civil society and popular protest. Taking a sociological approach, this course introduces methods and theories for analyzing media, institutions, inequality, and social change.

210. Quantitative Research Methods in Communication. (A) Bleakley/Staff.

This course is a general overview of the important components of social research. It presents a conceptual basis for assessing research quality based on the four types of validity, and also covers the standard elements of research design, including sampling, measurement, and causal inference. These concepts are then illustrated through reviews of four research areas: surveys and field studies, qualitative/ethnographic studies, content analysis, and policy/evaluation studies. The final part of the semester focuses more on descriptive and inferential statistics, measures of association for categorical and continuous variables, and the language of data analysis.

SM 211. Media Activism Studies. (M) Pickard.

This seminar provides an introduction to the politics and tactics underlying various types of media activism. The class will examine interventions aimed at media representations, labor relations in media production, media policy reform, activists' strategic communications, and "alternative" media making. The course will draw from an overview of the existing scholarship on media activism, as well as close analyses of actual activist practices within both old and new media at local, national, and global levels. We will study how various political groups, past and present, use media to advance their interests and effect social change. Each member of the class will choose one case study of an activist group or campaign to explore throughout the semester.

SM 213. Social Media and Social Life. (M) Gonzalez-Bailon.

The irruption of social media as a means of communication has been said to transform many dimensions of social life, from how we interact with significant others to how we engage in public life - but has it, really? Regardless of the specific technology (blogs, micro-blogs, social networking sites, peer-to-peer networks), social media make interdependence more prevalent, and exposure to information more pervasive. But social networks, and the ties that bring us together, have long mediated the way in which we obtain information, engage in public discussion, and are recruited or mobilized for a public cause. So what has social media brought to the table that is new? This course will evaluate the evidence that can help us answer this question, as well as challenge conventional views and discuss questions that remain open. The effects of social media on

ideological polarization, social influence and peer pressure, agenda-setting dynamics, and the formation and effects of social capital are examples of the substantive topics and theoretical debates that will be considered.

SM 216. Big Data and Social Research. Gonzalez-Bailon.

Big data is stirring a lot of buzz in academic policy and business debates. Even though the label is far from being unanimously accepted, it has become common shorthand for the vast amounts of transactional records that we generate daily in our use of digital technologies and online networks. As with the proverbial glass, however, the promise of big data is seen by many as half empty and by others as half full. This course will introduce and discuss recent contributions to the debate of how digital data - and the larger, more granular sets of observations of what we do as we use online technologies - change social research and the questions we can ask about the social world we inhabit. Although the use of big data raises many relevant privacy concerns, this course will show that there is value in stirring the discussion away from normative claims and consider, instead, how big data is helping us push social research to new, exciting frontiers.

225. Children and Media. (D) Jordan.

This course examines children's relationship to media in its historic, economic, political and social contexts. The class begins with an exploration of the ways in which "childhood" is created and understood as a time of life that is qualitatively unique and socially constructed over time. It continues with a review of various theories of child development as they inform children's relationship with and understanding of television and other household media. It next reviews public policies designed to empower parents and limit children's exposure to potentially problematic media content and simultaneously considers the economic forces that shape what children see and buy. Children and Media concludes with a critical examination of research on the impact of media on children's physical, cognitive, social and psychological development.

226. (PSCI232) Introduction to Political Communication. (C) Jamieson.

This course is an introduction to the field of political communication, conceptual approaches to analyzing communication in various forms, including advertising,

speech making, campaign debates, and candidates' and office-holders' uses of news. The focus of this course is on the interplay in the U.S. between television and politics. The course includes a history of televised campaign practices from the 1952 presidential contest through the election of 2012.

230. Advertising and Society. (M) Turow.

This course will explore the historical and contemporary role of the advertising industry in the U.S. media system. Readings will include social histories of advertising, economic examinations of advertising's role in society, and critical analysis of the ad industry's power over the media.

237. Health Communication. (M) Hornik/Staff.

An examination of the influence of public health communication on health behavior. The course will consider: intervention programs addressing behaviors related to cancer, cardiovascular disease, HIV/AIDS, drug use, obesity and others; theories of health behavior change; issues in the design of effective health communication programs; concerns about the portrayal of health and medicine on mass media.

240. (CIMS203) Film Forms and Contexts. (M) Messaris.

This course traces the development of the classical Hollywood cinema, as well as significant alternatives to this dominant mode of representation, by relating analyses of the formal elements of film texts to discussions of film industries and audiences as well as the larger social, historical context. A variety of analytical methods and perspectives are applied to films drawn from times and countries in order to consider the cinema as a cultural construction.

SM 243. Urban Ethnography. (C) Lingel.

How do qualitative social scientists study urban communities? What kinds of powerful tales can be told about urban lifestyles and social issues in places like Philadelphia? This course will allow students to study various ethnographic treatments of urban communities in the United States, using films, articles, TV serials, and books as guides for the framing of their own independent research on the streets of Philadelphia. Students will also form production teams of two or three people, and these production teams will be responsible for (i) identifying and researching an important urban issue in

contemporary an important urban issue in contemporary Philadelphia and (ii) turning that research into a 15-30 minute video documentary or pod cast. Mixing video/audio journalism with ethnographic methods will enhance their skills at archival and social research, from participant observation and interviewing techniques to sound editing and production. This course is intended to be a rigorous and exciting opportunity for students to tell empirically grounded stories using the voices of their participants and the sounds of the city.

SM 245. Teens and Screens: Understanding Youth Media Behavior. (C) Bleakley.

Why do screen media and digital technologies captivate youth? In this course we address this question by examining the role media play in adolescent development and behavior. We begin by considering adolescence as a unique period of psychological and social development and discussing emerging adults as a special population. Next, we will explore how adolescents use and interact with media and how their media preferences are related to their developmental needs, with particular attention to social media use and media content targeted to, and popular with, adolescent audiences. Finally, we will investigate how media influence adolescent self-identity and behavior by reviewing media effects in areas of sex, violence, gender norms, and friendship quality. The strength of the evidence for media effects and its behavioral and policy implications will be presented and debated within each area of study. Relevant theoretical perspectives will inform these discussions. Throughout the semester students will critically reflect upon current empirical research while also spotlighting different media-TV shows, social media apps (e.g., Yik Yak) and social movements (e.g., #iammorethanadistraction).

262. (CIMS204) Visual Communication. (C) Messaris.

Examination of the structure and effects of visual media (film, television, advertising, and other kinds of pictures).

SM 270. (SOCI230) Global Digital Activism. (M) Yang.

This seminar examines the forms, causes, and consequences of global digital activism, defined broadly as activism associated with the use of digital media technologies (e.g., Facebook, Twitter, mobile phones, and the Chinese Weibo). The goal is to provide students with a theoretical tool-kit for analyzing digital

activism and to develop a critical understanding of the nature of contemporary activism and its implications for global social change. Major cases to be examined include the "Occupy Wall Street" movement in the US, the Arab Spring, the "indignados" protests in Spain, and internet activism in China. Students are required to conduct primary, hands-on research on a contemporary case (or form) of digital activism and produce a final research paper. This research project may be done individually or in small groups.

L/R 275. Communication and Persuasion. (C) Cappella/Staff.

Theory, research and application in the persuasive effects of communication in social and mass contexts. Primary focus on the effects of messages on attitudes, opinions, values, and behaviors. Applications include political, commercial, and public service advertising; propaganda; and communication campaigns (e.g. anti-smoking).

282. Sick and Satiated - The Insanity of Humor and How it Keeps Us Sane. (C) Booth.

The goal of this course will be to prove definitively how and why humor, as both an instigator and peacemaker, might be considered one of the most influential and profoundly useful forms of communication devised by human beings. The unique ability of jokes and satire to transcend familiar literary and journalistic forms for the purpose of deepening (or cheapening) socio-philosophical arguments and to inspire (or discourage) debate and participation in public conversations about innumerable political and social issues will be explored. The fearless analytical nature of both high and lowbrow comedy will be examined, as well as its deflective qualities, and the corollaries construed from humor's dissection of straight society's monomania will be inspected and tested for cohesion and viability. Dwayne Booth, the course instructor, has been a freelance writer and cartoonist for twenty-five years, publishing under both his real name and the pen name of Mr. Fish with many of the nation's most reputable and prestigious magazines, journals and newspapers, including Harper's Magazine, Truthdig, the Los Angeles Times, the Village Voice, the LA Weekly, the Atlantic, the Huffington Post, The Nation and others.

SM 290. Special Topics: From Beulah to Awkward Black Girl: Black Women on and in Television in the United States. (M) Chatman.

The course explores Black women's involvement in the television industry as actors and content creators, beginning in the 1950s with Beulah and then transitions throughout the decades into the contemporary moment with Black women's presence in unscripted programs, dramas and web series. The course engages Black feminist debates about Black women's representation in media, and interrogates the cultural and political conditions, and industry discourses and practices that coincide with many of the shifts in Black women's visibility on and in television.

292. WARNING! Graphic Content - Political Cartoons, Comix and the Uncensored Artistic Mind. Booth.

This course examines the past, present and future of political cartooning, underground comix, graphic journalism and protest art, exploring the purpose and significance of image-based communication as an unparalleled propagator of both noble and nefarious idea. The work presented will be chosen for its unique ability to demonstrate the inflammatory effect of weaponized visual jokes, uncensored commentary and critical thinking on a society so often perplexed by artistic free expression and radicalized creative candor. Dwayne Booth, the course instructor, has been a freelance writer and cartoonist for twenty-five years, publishing under both his real name and the pen name of Mr. Fish with many of the nation's most reputable and prestigious magazines, journals and newspapers, including Harper's Magazine, Truthdig, the Los Angeles Times, the Village Voice, the LA Weekly, the Atlantic, the Huffington Post, The Nation and others. His most recent books are *Go Fish: How to Win Contempt and Influence People*, Akashic Books, 2011, and *WARNING! Graphic Content*, Annenberg Press, 2015.

294. Chicks and Cyborgs: Gender, Technology and Culture. (C) Lingel.

Information and communication technologies (ICT) are powerful tools of connectivity and social change, but they also contain embedded ideological tensions that can produce inequalities and deepen inter-group disparities. At the core of this class is a sustained analysis of the effects of gender on the development and use of ICT. Drawing on a range of theories for communication, gender, information, media, sexuality and technology, this course helps students understand feminist

critiques of science and technology; develop critical analyses of public policies that have consequences; identify barriers to the recruitment and retention of historically marginalized groups in the technology industry; and understand frameworks for thinking about communication technologies as shaping everyday life.

SM 300. Public Space, Public Life. (C) Marvin/Staff.

Public space as a mediated system of communication anchored in embodied practice. Historical aspects, public space as a cultural signifier, how the organization and regulation of collective spaces facilitates and enriches or hinders common life, public space as a critical component of democracy.

SM 301. Introduction to the Political Economy of Media. (M) Pickard.

This course has two aims. First, assuming that communications are central to any society, it situates media systems within larger national and international social relationships and political structures. Second, this course critically examines the structures of the communication systems themselves, including ownership, profit imperatives, support mechanisms such as advertising and public relations, and the ideologies and government policies that sustain these arrangements. Considering case studies ranging from traditional news and entertainment media to new digital and social media, the course provides a comprehensive survey of the major texts in this vibrant sub-field of media studies.

SM 321. Big Data and Social Research. Gonzalez-Bailon.

Online networks are prevalent in how we access and share information. They shape how we consume news, how we interact with friends, peers and strangers, and how we mobilize groups or try to gain the attention of large audiences. Online networks encourage dynamics of information exchange that can, potentially, be very consequential for the societies we live in or the societies we would like to build. Networked technologies have, in brief, the potential to transform governance, collaboration, and organization, and radically change how we think about regulation and policy making in the digital age.

This research seminar aims to help students develop a technical understanding of how networks operate, what dynamics they are more likely to encourage, and what features limit their ability to diffuse information or spread behavior. We need to understand the logic of networks - and

learn how to model their complex and counter-intuitive dynamics -before we can analyze their social impact or engineer interventions, for instance, campaigns to promote socially beneficial behavior.

SM 322. History and Theory of Freedom of Expression. (C) Marvin.

Origins, purpose, theory, practice of freedom of expression in the West. Philosophical roots of contemporary debates about expressive limits, especially problems associated with media of communication. Major topics include, but are not limited to sexual expression, hate speech, traitorous and subversive speech, campaign finance, non-verbal expression, artistic expression, privacy.

SM 323. Contemporary Politics, Policy and Journalism. (B) Hunt.

A course on the modern media and its impact on government and politics. It primarily covers the post-Watergate/post-Vietnam era of journalism, the past quarter century. Each week focuses on specific topics and areas of post-Watergate journalism, as well as current press coverage of national events over the prior week. This course gives students the opportunity to interact and discuss the intersection of the press, politics, and public policy with some of the leading practitioners in the field.

SM 332. (PSCI332) Survey Research and Design. (M) Dutwin.

Survey research is a small but rich academic field and discipline, drawing on theory and practice from many diverse fields including political science, communication, sociology, psychology, and statistics. Surveys are perhaps the most ubiquitous tool of measurement in the social sciences today. Successful practitioners develop expertise in the art and science of survey methodology, including sampling theory and practice, questionnaire instrument development and operationalization, and the analysis and reporting of survey data. Survey researchers are scientists of the method itself testing various practices by which surveys can be improved upon, as well as developing a keen understanding of the nature of error in surveys and how to control it. This course is a canvass course on survey research and design, highly experiential but also based upon introductory statistical theory and analysis.

SM 339. Critical Perspectives in Journalism. (M) Zelizer.

This course aims to provide students with a critical understanding of journalism. It

combines theoretical perspectives on the making of news with primary source material produced by and about journalists. Students will analyze theoretical material on journalism -- about how news is made, shaped, and performed -- alongside articles and broadcasts appearing in the media, interviews with journalists in the trade press, and professional reviews. Topics include models of journalistic practice, journalistic values and norms, gatekeeping and sourcing practices, storytelling formats in news, and ethical problems related to misrepresentation, plagiarism, and celebrity.

SM 341. Children's Media Policy. (C) Jordan.

This course takes a philosophical, historical, and practical approach to understanding why and how the US media industries are regulated. It begins by examining the philosophical tension regarding free speech rights vs. child protection obligations and the media effects beliefs that would drive media regulation. Next, it examines the process of media policy formation and implementation, including the role of regulatory agencies, industry lobbyists, academic researchers and child advocates in advancing distinct policy agendas. Throughout the course we survey a range of policy actions, from legislatively required parental monitoring tools (such as the V-Chip) to voluntary industry efforts (such as network restriction of junk food advertising). We consider evidence of the success of these efforts in limiting children's exposure to damaging content and in improving parents' ability to supervise their children's media use.

362. Visual Communication Lab. (M) Messaris. Prerequisite(s): COMM240 or COMM262.

This laboratory provides an opportunity for students to explore, through actual media production, many of the conceptual principles and research findings discussed in COMM240 and COMM262. (Requires Permission of Instructor.)

SM 374. (PSCI374) Communication and Congress. (M) Felzenberg.

This course will examine how Congress goes about the business of translating the public's concerns into legislation and keeps the public informed of its progress. It will examine how the two chambers interact in this process, what role the media plays in shaping Congress's agenda and vice versa, and what impact the advent of 24 hour news, C-SPAN and the internet have had on Congressional deliberations. A historical approach will be taken in

considering the evolution of both chambers and the media's coverage of them. Students will examine differences between the House and Senate in both their institutional development and how they go about communicating with each other, the general public, and the other branches and levels of government.

SM 377. Philosophical Problems of Journalism. (C) Romano.

An exploration of the relationship between journalism and philosophy by examining particular issues in epistemology, political philosophy, ethics, and aesthetics. Among likely topics: the concept of a "fact"; the role of the press in the state; whether journalists (like doctors and lawyers) operate according to a specialized "professional" ethics; and the limits of journalism as a literary or visual genre. Course reading will include philosophical texts, breaking print journalism, and blogs that specialize in media issues.

SM 378. Journalism & Public Service. (B) Romano.

In this course we examine links between journalism and public service by scrutinizing core concepts involved, practices that sometimes put journalism and public service in conflict (e.g., investigative reporting, coverage of war), and how journalism stacks up against other forms of public service from NGO work to government employment. Beginning with a reading of Robert Coles's classic *The Call of Service*, we dissect the notion of the "public," assess so-called public-service journalism by reading Pulitzer-Prize-winning examples, and reflect on the news media as a political institution. Individual weeks focus on such topics as the conflict that arises when a journalist's obligation to a confidential source clashes with a duty to the judicial system, whether the business of journalism is business, how journalism and NGO work compares as public service, and whether journalism by committed political activists (such as public service, and whether journalism by committed political activists (such as I.F. Stone) surpasses mainstream "neutral" journalism as a form of public service.

SM 385. Media Activism and Social Change. (C) Garry.

This course offers students the opportunity to explore the relationship between the media industry and the public and the role groups and movements can play in holding the media accountable to serve the public interest. We will wrestle with what that responsibility looks like by engaging the following questions: What obligations do

media outlets have to offer fair, accurate, unbiased and inclusive representations in news and entertainment? How do media "insiders" understand this responsibility? Is it clear when a talk show host "crosses the line?" How do we define balance? Are there really two sides to every issue? What is media advocacy? What does it look like? What are the strategies and tactics employed by media activists? How do media insiders effectively contend with media outsiders lobbying for change? These questions will be explored in historically contextualized ways, using a diverse menu of social and political movements and examining the issues with recourse to all sides of the political spectrum.

SM 386. Nonprofit Communications Strategy. Garry.

The success of a nonprofit organization as defined by its efforts to fulfill its mission is tied directly to its ability to clearly articulate its need, its vision and the specific programs it does or will employ to achieve that mission. This clear and persuasive communication is integral to its ability to raise funds, to establish a credible voice for lobbying or advocacy and in its efforts to engage the widest possible base of stakeholders. This class will explore the ways in which nonprofits engage in strategic communications. We will look at public service campaigns, ongoing press efforts, social media strategies, fundraising appeals and public speaking.

SM 388. Ritual Communication. (B) Paxton.

This course explores the significance of rituals as communicative events in American culture. We will examine both the "how" and the "what" of ritual communication and, with the aid of several ritual theorists, we will come to better understand the unique language of ritual. We will pay particular attention to the ways in which rituals contribute to the making and re-making of social groups, be they religious, political, familial or institutional. And we will necessarily attend to the obverse: the ways in which rituals create and perpetuate boundaries between "us" and "them" and between "appropriate" and "deviant" social behavior. Starting with birth and ending with death, this course will focus largely on what are called "lifecycle" rituals or "rites de passage". We will look at rituals that focus on individual transitions -- the quinceanera for example -- as well as those that mark transitions on a far larger scale such as presidential elections. We will explore rituals that unfold at the local level and are experienced "up close" as well

as those that most Americans experience only via the media.

390. Managing in the Information Economy and the Media Sector. (M) Noam.

This course covers a subject that is important for management success in the present and for an understanding of the emerging Information Economy. The course brings together many of the strands of an entire MBA program -finance, marketing, accounting, pricing economics, strategy, production, market research, technology and people management, and government relations. For each of these functions it looks at the differences in the management of digital activities to the more traditional approaches in industry and finance. It does so by focusing in depth on the sector furthest along in its digital transformation, that of media, information and communications, and projecting its lessons.

Lecture topics are media and startup finance; content production and valuation; HR management for creatives; the marketing, pricing, and distribution of digital products; technology and innovation management; intellectual asset management; and more. For each of these functions we assemble a set of MBA tools and a set of societal policy perspectives. We cover several media industries throughout the course, from film & theater, print & TV, to telecom, internet, electronic media devices, and cloud-based TV.

In terms of format, the course provides lectures and cases. Lectures are also fully available online in text formats, enabling off-site review. The Final Paper is a business plan for a project by startups or established firms utilizing next-generation (Gigabit) broadband. Other paper topics are possible.

SM 391. Politics, Media, & Public Diplomacy. (C) Morey.

This advanced level seminar focuses on the relationship between U.S. and global politics and the media. It examines the complex and often paradoxical relationship between politics and media, the role of journalism today, and the definition of media and related normative questions. In addition, this course focuses on the changing and critically important role of public diplomacy-the way the U.S. and other nations communicate to the world. This course is designed to provide students an overview of the above subjects and to acquaint them with key areas of related literature-sensitizing them as well to the complex interaction between politics and the press. In addition to a roughly 5000-

word paper covering a relevant subject selected by students, the course will help develop important pragmatic skills in terms of verbal and short-form communications. For some classes, a number of highly accomplished special guests will be utilized.

SM 393. (PSCI398) POLITICAL POLLING. (C)

SM 395. Communication and the Presidency. (D) Eisenhower.

This course will examine the vital aspect of communication as a tool of the modern Presidency. Reading and class discussions will focus on case studies drawn from modern Presidential administrations (beginning with FDR) that demonstrate the elements of successful and unsuccessful Presidential initiatives and the critical factor of communication, common to both. This course is also an introduction to primary research methods and to the use of primary research materials in the Presidential Library system. Applications for course available in the Undergraduate Office. Preference given to CompPS students. Majors only.

SM 397. New Media and Politics. (M) Winneg.

This course seeks to trace the evolving relationship between new media and the political process from three perspectives: the voter, the political campaigns, and the news media. It will trace these changes beginning with the 1996 presidential campaign and end with the 2010 midterm campaigns and suggest implications going into the 2012 campaign.

In traditional media research, studies were either about "what media do to people" (effects studies) or "what people do to media" (Use and Gratifications). This course will discuss how changes in technology in the 21st century re-examines the relationship between media and the audience and how this change in media landscape may affect politics in ways that previous studies never examined and understood before the popularization of the Internet, email, texting, blogging, social media and twitter. Assignments will include: weekly paper and a final paper.

SM 402. Arab Uprisings: Local and Global Representations. (M) Kraidy.

This course explores the Arab uprisings as a battleground where multiple narratives battle for visibility across a variety of media platforms. We will examine local and global representations of the popular movements that have swept Arab countries since December 2010, analyzing different

media, styles and modalities of representations. We will focus among other things on social media, political humor, graffiti, and the human body as instruments of communication, and focus on various related debates and polemics about the political impact of technology, the effectiveness of political satire, and the role of gender and sexuality in revolutionary politics. The overall approach of the course is critical/theoretical.

SM 404. (PSCI404) Media and Politics. (C) Mutz.

Media and Politics will examine multiple issues specific to the past and present political media environment in the United States. Focus will be primarily, though not exclusively on the contemporary news media (as opposed to political advertising and other marketing-oriented communications). Topics will include the rise of partisan media, selective exposure, news as entertainment, etc. Reading expectations will be relatively heavy, and under the supervision of the professor, students will be expected to write a research paper on a topic not directly a part of the course material.

SM 405. Facing Race: Race and Caricature in the Historical Imagination. (C) Pearl.

Is race imaginary? If so, who invented facial distinctions and why can we see them? Do pictures change the way we think? How do artists think about the people they draw and satirize? This course will explore the relationship between caricature and perceptions of racial difference in modern western culture. We will interrogate the role that visual images play in framing our perceptions of groups and their defining characteristics. Broadly historical, this interdisciplinary course will introduce students to scholarship in visual culture, media studies, science studies, and race theory. Students will develop skills in primary source analysis, historical methodology, and visual analysis. Assignments will include a visual analysis, 4 short papers, and a final exam.

SM 414. Modeling for Complex Social Systems. (C) Centola.

The course provides a hands-on practicum for learning how to model social systems using the NetLogo Agent Based Modeling environment. Previous experience with programming is helpful, but not required. Models can be used without programming, and participants will learn how to use the NetLogo language to alter, extend, and create new models. The emphasis of the

course is on how to think about complex social systems, and how small changes in social interactions can produce large consequences for collective behaviors. Topics covered include: dynamics of Segregation, Riots, Small World Networks, Social Movements, Complex Contagions, Cultural Polarization, Witch Hunts, Collective Problem Solving, Collective Intelligence, and the World Wide Web.

SM 417. The Politics of Digital Media Policy. Pickard.

This discussion-oriented course examines key digital media policy debates and their underlying politics. We will examine policies affecting news and entertainment media, social media, telecommunications, and the Internet. Drawing from major texts within this growing sub-field, we will formulate analyses about the future trajectory of U.S. and global digital media and evaluate relevant policies in relation to democratic theory and ethical concerns. In particular, we will focus on how media policy is shaped by political processes in and outside Washington, D.C., and consider to what extent new digital media have disrupted pre-existing policy regimes. Students will choose one specific case study of a digital media policy debate to explore throughout the semester.

SM 418. Nothing New Under the Heavens: The History of 'Old Media'. (A) Pearl.

In this course, we will explore the history of media innovations and revolutions in the Western world. Following a brief look at early cave writing and papyrus, we move to early modern developments in print-making. We will analyze different methods of image reproduction, focusing in particular on the printing press and its social and cultural impact. We will discuss the implications of the printing press for literacy, political life, democracy, the post, and visual culture. We track track changes in print culture through the nineteenth century, thinking about the relationship between the explosion in printed material and the development of the middle class. We will connect changes in print culture to early photography, film, and radio, thinking about how this history created the conditions of possibility for "new media." In this class, we search for continuities that will help us frame current debates and scholarship on new media and its implications.

SM 419. Communication, Culture & Revolution. Kraidy.

This seminar explores revolutionary communication and cultural expression.

Looking at the ongoing Arab uprisings in comparative perspective, we will examine modalities of communication through which revolutionaries express themselves, describe and attack incumbent dictators and other opponents, call for new social solidarities, and construct revolutionary political identities. Revolutionary contexts are considered as battlegrounds where multiple narratives contend for visibility. We will explore relevant debates and polemics, historical and contemporary, concerning the political impact of technology and the role of gender and sexuality in revolutionary politics. We will focus on social media, political humor, graffiti, and the human body as instruments of communication. The overall approach of the seminar is theoretical, critical and transnational.

SM 423. Communication and Social Influence Laboratory. (M) Falk.

Prerequisite(s): COMM275 or a media effects or persuasion course at ASC, psych, or Wharton.

Considerable resources are devoted to constructing mass media campaigns that persuade individuals to change their behavior. In addition, individuals powerfully influence one another without even knowing it. Still, our ability to design and select optimal messages and interventions is far from perfect. This course will review investigations in social and cognitive psychology and communication sciences that attempt to circumvent the limits of introspection by using biological and implicit measures, with particular focus on neuroimaging studies of social influence and media effects.

SM 439. Media Criticism. (M) Zelizer.

Criticism has at its core an assumption of judgment about the target or performance being evaluated. Yet whose judgment is being articulated? On which basis and authority? To which ends? And with which effects? This course examines the shape of contemporary media criticism, focusing on its meaning function in different domains of popular culture (including music, television, news, and film) and the patterns by which it is produced. Students will become acquainted with theories and ongoing debates about contemporary media criticism themselves. The course aims to sensitize students to the nuances of their own consumption of criticism and patterns by which it is typically produced.

SM 462. (CIMS462) Digital Media Lab. (M) Messaris. Prerequisite(s): COMM 240, COMM 262, or other course with the current instructor of COMM 462.

The Digital Media Laboratory provides students with an opportunity for the practical exploration of theories and principles of audio-visual communication.

L/R 470. Freaks and Geeks: People on Display. (C) Pearl.

In life as in fashion, either you are in or you are out. Except in life, the inside and the outside are always changing, depending on who makes the rules, where the inside is situated, who is doing the displaying. In this course, we will explore who the freaks are and who they were, where they can be found, how they came to be defined, and how this changed. Starting with the nineteenth-century freakshow, we move through time charting outsiders and their representations, including male and female hysterics, war wounded, medical "cases," and the mentally ill. As we progress through the twentieth century, we will discuss subcultures and alternative communities, thinking through the rise of "geek chic" and the dominance of the computer geek as a reversal of traditional trends. We will discuss current models of the exhibition of human types, including bodyworlds and The Learning Channel programming. As we circle around our own moment in time, we will ask: who are the freaks today? This interdisciplinary course will incorporate historical primary source documents, scholarly secondary works, a range of creative materials including films, plays, television shows, and works of art.

SM 485. Globalization and the Music Video. (C) Kraidy.

This seminar focuses on the music video genre to explore topical and conceptual issues at the heart of the globalization of the media and cultural industries. After a formative period largely grounded in North America and Western Europe, the music video migrated to other parts of the world in the 1990s as a wave of privatization and liberalization engulfed national media systems worldwide. Based on a variety of scholarly and trade readings about the globalization of media and culture, the changing media and creative industries, and the music video genre itself, questions to be tackled include: What changes when a media form migrates from its original context? What does the content of music videos reveal about socio-economic and cultural change worldwide? How do music videos rearticulate gender and sexuality, and nationalism? What transnational

circuits of ideas, images and ideologies are enabled or constrained by music video?

SM 490. SPECIAL TOPICS IN COMM. (M)

SM 491. Communication Internship. (D) Haas.

Seminar for students concurrently participating in department-approved internships in communication-related organizations. Students will develop independent research agendas to investigate aspects of their internship experience or industry. Building on written field notes, assigned readings, and classroom discussion and evaluation, students will produce final papers using ethnographic methods to describe communications within their site or industry in order to understand and critically examine their hands-on experiences.

493. Independent Study. (D)

494. Honors & Capstone Thesis. (D)

First semester of the two semester thesis course; completed during the Fall semester of senior year. The senior thesis provides a capstone intellectual experience for Honors students and Communication and Public Service Program (ComPS) participants. Students conduct a primary research study on a communication related issue over the course of two semesters. Students should consult with and arrange for a faculty supervisor no later than the summer before senior year. Students must also file a designated form and topic statement, approved and signed by the supervising faculty member no later than the first day of class. Required of all students planning to enroll in COMM 495 or COMM 499 in the Spring. All Honors students must have a 3.5 cumulative GPA at the end of junior year for eligibility. See the Annenberg website for complete eligibility requirements.

495. COMPS Capstone Thesis. (D)

Staff. Prerequisite(s): Written proposal approved by both thesis supervisor and major chair.

Second semester of two semester thesis course. Successful completion of Comm 494 is required for enrollment. The capstone thesis is a requirement for all Communication and Public Service Program participants. Students complete the primary research project started during COMM 494. For students graduating with a 3.5 cumulative GPA after completing COMM 495 with a grade of 3.7 or higher, the capstone thesis may be designated as a

senior honors thesis in communication and public service.

SM 498. (PSCI439) Experimental Design. (M) Mutz.

The main goal of this course is to familiarize students with experiments, quasi-experiments, population-based survey experiments and field experiments as they are widely used in the social sciences. By the end of the course, students will be expected to understand what it is about a study that allows for a strong causal inference. Whether one is reading about studies in a newspaper or reading academic journal articles, it is important to know how to distinguish convincing versus unconvincing evidence of any given claim. As a final project, students will be expected either to develop their own original experimental design or to analyze the evidence pertaining to a causal claim of their choosing based on what they have learned in class. Throughout the course of the semester, we will also consider how to deal with the issue of causality as it occurs in observational studies, and draw parallels between experimental and observational research.

499. Senior Honors Thesis. (D) Staff.

Second semester of two semester thesis course. Completion of Comm 494 with a grade of 3.3 or higher and a 3.5 cumulative GPA at the end of the Fall semester of senior year are required for enrollment. The Senior Honors Thesis provides a capstone intellectual experience for students who have demonstrated academic achievement of a superior level. Students complete the primary research project started during COMM 494.

Graduate Courses

500. Proseminar. (A) Staff.

Introduction to the field of communications study and to the graduate program in communications. Required of all degree candidates. Open only to graduate students in communication.

SM 501. (Mis)Communication: The History of a Discipline. Pearl.

There is a field of Communication. But is there a discipline? This course will explore the development of the academic study of Communication in a broad historical context. We will examine the emergence of the field in the United States, Canada, and England, thinking critically about the differences in each country both historically and today. As we consider what counts as Communication, focusing in particular on the links between qualitative

and quantitative research, we also ask what gets left outside. What fields claim a relationship to Communication, and what fields have tried to sever all ties? How are these related areas of study -- including Rhetoric, Composition, Journalism, Production, Cinema Studies, and (most recently) New Media -- linked to the field of Communication, and what are the stakes for their autonomy? To answer these questions, we will explore the role of applied material in the modern academy and the status of practical and professional Communications research relative to theoretical academic pursuits. We will try (with full expectation of failure) to answer the question: What is communication?

SM 506. Introduction to Media Policy. Pickard.

This interactive and discussion-oriented course provides an introduction to key media policy debates, ranging from policies affecting news and entertainment media to telecommunications and the Internet. The course traces the history and politics of media policy through the development of radio, television, telecommunications, and digital media. Understanding these policies in relation to democratic theory and ethical concerns, the course examines how media policy is shaped in and outside Washington, D.C., and it considers the central role policy plays in structuring the kinds of media that we consume and create.

SM 509. Directed Readings in Theory. (M) Marvin/Pearl.

In the crush of academic life, it is not always as easy to read dense theoretical texts carefully and in as much detail as we'd like. This course offers a chance to slow down, step back, and revel in the opportunity to read informing texts that address the relationship between social theory and communication. Here are texts that are often quoted; we will explore their content and place them in conversation with one another, with their interlocutors, and with ourselves. Besides lively discussion, requirements include several essays and a long-form critically annotated citation analysis of a foundational text.

522. Introduction to Communication Research. (A) Delli Carpini/Hornik.

The logic of scientific inquiry and the nature of research. Hypothesis development, research design, field and laboratory observation and experimentation, measurement, interviewing and content analysis, sampling, and basic statistical analysis. Required of all degree candidates. Open only to graduate communication students.

SM 525. (PSCI525) Introduction to Political Communication. (M) Moehler.

This course is designed as a PH.D.-level introduction to the study of political communication, and is recommended as a foundational course to be taken early in one's course of study for students interested in political communication as a primary or secondary area of research and teaching. As an introduction to the field it is structured to cover a wide-range of topics and approaches, including media institutions and the effects of both mass mediated and deliberative communications. While no single course can provide comprehensive coverage of a subfield with as long and diverse a history as political communication, our hope is that you will leave this course with a strong grasp of the major theories, trends, methods, findings and debates in this area of study, as well as the gaps in our knowledge and promising directions for future research.

SM 530. Advertising and Society. (M) Turow. Fulfills ASC Institutions Distribution.

Advertising and Society will explore the development of the advertising industry in the U.S., the relationship between the advertising industry and the U.S. mass media, and historical as well as contemporary discussions of advertising's social and cultural roles.

SM 539. Journalism and the Academy. (M) Zelizer. Fulfills ASC Culture Distribution.

Contemporary journalism remains one of the most studied yet unexplained agents of reality construction. This course tracks theories of journalism across academic disciplines, exploring what is common and disparate about the varied perspectives they invoke. Topics include the development of journalism as a field of academic inquiry, histories of news, organizational research on the newsroom, narrative and discourse analytic work on news-texts, and recent work in cultural studies.

SM 550. Mass Media Industries. (M) Turow. Fulfills ASC Institutions Requirement.

Through theoretical readings and case studies, this course will provide an introduction to the study of media institutions from the standpoint of business processes, legal frameworks, and public policies. The first part of the course will sketch the history of major US media and present conceptual frameworks for understanding industrial, legal and policy approaches to US media institutions. Part 2 will explore key contemporary industrial,

legal and policy issues relating to particular US media industries. Part 3 of the course will use case studies to apply and deepen understanding of the frameworks and issues.

562. (CIMS504) Fundamentals of Visual Communication. (B) Messaris.

Introduction to the study of picture-based media: film, television, web, print, and other images. Theory and research on visual culture, visual "literacy," and visual persuasion.

SM 564. The Digital Image. (C) Messaris. Prerequisite(s): PLEASE NOTE: Instructor's permission required for enrollment. Course not open to undergraduates.

How is the evolution of digital media transforming the nature of visual communication? With that question in mind, this course focuses on the following features of visual media: photo-manipulation, computer-based editing & post-production, animation & special effects, 3D, digital cinema & television, online video, computer games, virtual reality & virtual worlds.

SM 575. Social Psychology of Communication. (C) Cappella.

Contributions of social psychology to understanding communication behavior: message systems; social cognition; persuasive communications; attitude formation and change; face-to-face interactions and small group situations; strategies of attributional and communicative interpretation; mass communicative effects; social influence and networks.

SM 602. Media Ritual. (M) Marvin.

Examines the relationship between ritual, a 'traditional' and essential mode of group communication and the pervasive media environment of post-traditional society. While societies seem eager to ritualize with all media at their disposal, the historical innovation of mass mediated ritual appears to offer a significant challenge to the body-based social connectedness that has long been regarded as definitive for ritual communication. Students will read from religious, anthropological and media traditions of ritual scholarship to consider what rituals do, how they do it, how they can be said to succeed or fail and how mediated ritual modifies or transforms older systems of ritual communication.

SM 609. (PSCI609) Comparative Political Communication. Moehler.

This course explores major themes in the study of political communication from a comparative perspective. It focuses on how communication affects political behavior, attitudes, and outcomes. In doing so we will question how different political and social institutions shape individual-level communication effects. We also examine the roles of mass media and interpersonal communication under different regime types and economic systems. Finally we also ask how media systems are influenced by political institutions.

For each topic we will critically examine the working hypotheses, methods, and evidence. The class is designed to provide a greater understanding of comparative political communication theories, as well as to develop social science reasoning and methodology. The readings, class discussions, and assignments will move back and forth between theories, empirical evidence, and public policies. The seminar will require active student participation in class discussions. The discussions will focus on the assigned readings for the week, but students are encouraged to discuss additional works that are relevant. Students must also write an original research paper, which can hopefully become a published article. The course readings span every major region but students are free to choose a geographic focus for their research paper.

SM 615. (PSCI635) Experimental Design and Issues in Causality. (C) Mutz.

The main goal of this course is to familiarize students with experiments, quasi-experiments, survey experiments and field experiments as they are widely used in the social sciences. Some introductory level statistics background will be assumed, though this is a research design course, not a statistics course. By the end of the course, students will be expected to develop their own original experimental design that makes some original contribution to knowledge. Throughout the course of the semester, we will also consider how to deal with the issue of causality as it occurs in observational studies, and draw parallels to experimental research.

SM 623. Health Psychology Seminar. (M) Jemmott.

Seminar members shall critically review current applications of psychosocial theory and methodology to health-related issues with the goal of suggesting new directions that research might take. Preventive health

behavior, HIV risk-associated behavior, psychosocial factors and physical health, practitioner-patient interactions, patterns of utilization of health services, and compliance with medical regimens are among the topics that will be studied.

637. Public Health Communication. (B) Hornik.

Theories of health behavior change and the potential role for public health communication; international experience with programs addressing behaviors related to cancer, AIDS, obesity, cardiovascular disease, child mortality, drug use and other problems, including evidence about their influence on health behavior; the design of public health communication programs; approaches to research and evaluation for these programs.

SM 639. (COML639, FOLK639) Communication and Cultural Studies. (M) Zelizer.

This course tracks the different theoretical appropriations of "culture" and examines how the meanings we attach to it depend on the perspectives through which we define it. The course first addresses perspectives on culture suggested by anthropology, sociology, communication, and aesthetics, and then considers the tensions across academic disciplines that have produced what is commonly known as "cultural studies." The course is predicated on the importance of becoming cultural critics versed in alternative ways of naming cultural problems, issues, and texts. The course aims not to lend closure to competing notions of culture but to illustrate the diversity suggested by different approaches.

640. Analysis of Data in Large-Sample Communication Research.

(I) Hornik. Prerequisite(s): COMM 522 and 524, or the equivalents.

Statement of measurement and substantive models, and strategies for examining the fit of data to those models. Examples and data are drawn from the media effects literature. Application of data reduction procedures, contingency table analysis, and correlational approaches including regression and structural equation models.

SM 644. Communication and Space. (M) Marvin.

Physicalized space is said to be crucial to public life. Perhaps so. But it is also critical to urbanization, globalization, modernity, mobility, social hierarchy, flow, scale, imperialism (what Said called the geography of violence), revolution, intimacy, shopping malls, simulacra, and

being-in-the-world. Space is not only mediated and dialectical; it is a privileged strategy of post-modernity, "the everywhere of modern thought." So far as media go, the analytic of space implies a shift away from narrative and toward process and practice as ways of structuring experience. What are the theories that get at this? How can we use theories of space to think about media and culture, to rediscover the richness of the world? And what about the explosive iteration of screen culture that logically ought to imperil lived space but seem to offer new modes for grounding it. We will explore these themes in the relevant literatures for the purpose of developing fabulously interesting research projects, including some in visual format. No spatial pre-requisites.

SM 660. Content Analysis. (M) Krippendorff.

An introduction to content analysis, the analysis of large bodies of textual matter, also called message systems analysis, quantitative semantics, propaganda analysis, and (computer-aided) text analysis. The course inquires into the theories, methods, and empirical problems common to these analytical efforts: sampling, text retrieval, coding, reliability, analytical constructs, computational techniques, and abductive inference. It illustrates these problems by studies of mass media content, interview or panel data, legal research, and efforts to draw inferences from personal documents typical in psychology and literature. Students design a content analysis and do the preparatory work for an academic or practical research project. They may also use the opportunity of forging available theories into a new analytical technique and test it with available texts, or solve a methodological problem in content analysis research.

SM 665. (SOC1664) Digital Media and Social Theory. (C) Yang.

This course explores critical issues in contemporary society through the lens of digital media studies and social theory. The goal is to build constructive dialogues between digital media studies and contemporary social theory. Special attention will be given to how social theory may inform the theorizing and empirical analysis of digital culture, politics, and practices. We will read monographs on globalization, power and control, dissent and protest, self and community, and the public sphere as they relate to digital media technologies. They include works by McLuhan, Castells, Turkle, Papacharissi, Lievrouw, Bimber, W. Chun and more.

These monographs will be examined alongside the works of Gramsci, Foucault, Williams, Habermas, Bourdieu, Giddens, and Melucci. Students are required to submit weekly reading reports, make oral presentations, and complete a term paper.

SM 671. Computational Social Science. (C) Centola.

This is an advanced graduate research seminar in which guest speakers will present cutting-edge research in Computational Social Science. Our focus will be on carefully reading the speaker's work, and discussing in detail their theoretical models, empirical methods, and overall scientific contribution. Participants will also present in the seminar, which will help to prepare them for professional presentations of their work at conferences and job talks. This seminar will meet weekly.

SM 675. Message Effects. (M)

Cappella. Prerequisite(s): COMM 575.

Current research, theory and statistical methods for assessing the effects of messages. Specific focus on messages designed to have a persuasive effect on attitudes, beliefs, opinions, or behaviors. Experimental and non-experimental research from mass and interpersonal communication, health, social psychology, advertising, political science and journalism will be considered. Unintended effects--such as the consequences of violent pornography--are not considered.

SM 697. Popular Culture and Politics. (M) Delli Carpini.

Not surprisingly, most research regarding the media's impact on political attitudes, opinions, knowledge and behaviors focuses on news and public affairs genres, ignoring the vast majority of media content labeled "entertainment." Spurred in part by technological, economic, cultural and political changes that have increasingly blurred the line between news and entertainment, a small but growing body of empirical research is exploring the political influence of popular culture. In this course we will critically review this literature, focusing on issues of theory, methods, findings and implications.

699. Advanced Project in a Medium. (C) Staff.

Proposal written in specified form and approved by both the student's project supervisor and academic advisor must be submitted with registration. Open only to graduate degree candidates in communication.

SM 701. Introduction to the Political Economy of Media. (M) Pickard.

This course has two aims. First, assuming that communications are central to any society, it situates media systems within larger national and international social relationships and political structures. Second, this course critically examines the structures of the communication systems themselves, including ownership, profit imperatives, support mechanisms such as advertising and public relations, and the ideologies and government policies that sustain these arrangements. Considering case studies ranging from traditional news and entertainment media to new digital and social media, the course provides a comprehensive survey of the major texts in this vibrant sub-field of media studies.

SM 703. (LAW 914, PSCI703) International Communication: Power and Flow. (C) Price, M./Katz.

The tumultuous rise of new media technologies, including the Internet and social media, combine with grinding geopolitical change to create dramatic changes in law and policy regarding speech and society. This course is an examination of current dilemmas in historical context; about strategic communications in contrast or challenge to goals of free expression and to the exercise of power over the flow of information. Taking relevant contexts, including societies in transition, authoritarian societies, states and societies in conflict, we explore the relationship of the state and other entities to the flow of words and images, and how these messages impact public opinion, stability, and democratic growth. We start with a theoretical orientation focused on two competing paradigms- the paradigm of free expression and the paradigm of national identity, conflict management, and sovereignty. The class will then explore several case studies viewed through the lens of narrative theory. Areas of discussion may include case studies such as Ukraine, Russia, Syria, Iran and, as well, the drama of the development of global internet policy.

SM 705. Comparative Media Policies in a Cross-Disciplinary Context. (M) M.Price.

This course will seek to capture the dynamics of media policy developments, across technologies and across societies. The seminar will draw on the work of the Center for Global Communication Studies using case studies from Europe, China, India, the US and elsewhere. The following issues will likely be included: understanding of institutions of censorship

in Iran; competing concepts of "internet freedom" ; the roles of the UN rapporteur on free expression and equivalents at the OSCE, the OAS and in Africa; concepts of pluralism; varying definitions and judicial examinations of "decency"; political control and the making of policy concerning satellite transponders; approaches to media independence and ownership; and changing concepts of public service media.

The course starts from the premise that the policies that govern the media are significant societal artifacts embedding distinct values, patterns and processes of control in relation to mediation, freedom of expression and access to information. They are the result of forces-institutional, technical and cultural-acting toward a particular notion of social order. Media laws and policies are signposts concerning commitments to democratic aspirations, to ideas of identity and to symbols of a society's cohesion. Media laws and policies are, as well, an essay on globalization over time.

SM 706. (PSCI805) Analysis of Election Data. (C) Mutz.

This course is intended to serve as a workshop for students interested in the empirical analysis of elections, public opinion and political communication more generally. The centerpiece of the course will be an original research paper produced by each student on a topic of his or her own choosing. The requirements for these papers are fairly open, but demanding: the research papers must a) involve empirical analysis of a major election data set, b) be oriented toward answering an original research question selected with the guidance of the instructor, and c) aim to be of publishable quality. There are no formal prerequisites for the course. However, if you have less than two semesters of statistical training, and/or no formal background in the study of elections, public opinion or political communication, then this is probably not the right course for you. In order to be able to formulate an original research question, you need some background in the literature, which is provided by other courses, but is not a formal part of this course.

SM 712. Race,Media and Politics. (C) Delli Carpini.

"Race" has and continues to play an important role in American politics. In this course we will critically review the relevant Communication and Political Science literature with an eye towards understanding: (1) the role of the mass media in the construction and

dissemination of race as a sociopolitical concept; (2) how race affects political attitudes, opinions and behaviors; (3) the unique methodological problems researchers face in studying racial attitudes and opinions; and (4) shortcomings in the existing scholarship on race, media and politics and how these shortcomings might be addressed.

SM 713. Historical and Visual Culture Methodology. (M) Pearl.

This methodology class will examine different historiographical and visual approaches, particularly as they relate to the study of communication. Students will be guided through archival research skills, working extensively with primary sources in their final projects. Each week will feature a different "research question" that will require archival exploration to answer, and the readings will relate to different ways to approach the question. The second half of the course will be devoted to developing and workshoping final projects.

SM 715. (PSCI715) Political Communication. (M) Mutz.

This course examines the role of political communication in influencing political attitudes and behaviors. Because of the broad nature of the topic, course readings and lectures will be interdisciplinary, drawing on research in sociology, history, psychology, political science and communication research. There are two primary goals for the course. One goal is to acquaint graduate students with the wide-ranging literature on political communication. A second major goal is to stimulate ideas for original research in the field of political communication. Toward this end, by the end of the semester students will be expected to be sufficiently familiar with the field to propose original studies on topics of their choosing. The formulation of an original research question and research design will be an important component of the final examination.

SM 717. Communication and Development. Moehler.

This course explores the role of communication in classic and current theories of political and economic development. It addresses the questions: What is development? What are the major hypotheses about the relationship between communication and development? How have our hypotheses about communication and development evolved over time in response to changes in prominent development theories, policy trends, and empirical evidence? What are the effects

of different and political regimes on media systems and visa versa? What actions are being taken to enhance media development? How has the media been employed to facilitate socioeconomic development, good governance, and democratic development? To what extent are media assistance programs supported by theory and empirical evidence? What should be the focus of future development efforts?

First, the course surveys the major theories over the past 50 years about how states develop economically and politically focusing on the role of media, information, and communication as both causes and consequences of development. It considers how the theories shaped public policies and investigates the real-world and academic challenges that emerged. Second, the course examines some current communication and development issues including: Media and conflict; media regulation in democratic and authoritarian regimes; restrictive media environments and public opinion; elections and the media; communication and governance; development and changing forms of political communication, including the mass media, citizen deliberation, and new information and communication technologies; information access, poverty, and inequality; development communication and persuasion; and media development interventions and outcomes. For each topic we will critically examine the working hypotheses, methods, and evidence. The class is designed to provide a greater understanding of the communication challenges faced by developing countries, as well as to develop social science reasoning and methodology. The readings, class discussions, and assignments will move back and forth between theories, public policies, and empirical evidence.

SM 721. Theory and History in Global Communication. (C) Kraidy.

For more than a half century, global communication theory has been shaped by interaction between worldwide geopolitical developments on the one hand, and theoretical trends in the social sciences and humanities on the other hand. This course is designed to give you a firm grasp of the historical trajectory of global communication theory and to develop knowledge of the central debates that have animated the field since the mid-20th century. We will discuss how these debates have changed, under what circumstances, and how contemporary scholarship wrestles with them; and how language and jargon in the field has shifted from "international" to

"global." We will also explore why some key issues and media have received relatively scant attention in global communication research, while others have arguably been over-emphasized. We will read a mixture of primary sources by luminaries in the different paradigms that have dominated global communication, complemented with secondary texts that are carefully selected to give you a sense of the architecture of the field, an understanding of what sub-areas of global communication scholarship are published and the journals and presses that publish in those sub-areas.

SM 727. Evaluation of Communication Campaigns. (C)

Hornik.

The various roles of research in campaign work: foundational research, formative research, monitoring research, summative evaluation research, policy research. The place for a theory of campaign effects. The ethics of evaluation research. Alternative designs, measurement, statistical and analytic approaches.

SM 731. (GSWS731) Beauty & Technology. (M) Pearl.

Have concepts of beauty changed over time? According to Darwin, the meaning of facial expressions and emotions are consistent across cultures and are universally understood. Modern scholarship would have us believe that notions of human beauty are framed by facial symmetry and reproductive fitness, while fashion magazines seem to challenge both these claims. What role does technology play in communicating and shaping ideas of beauty? By the same token, to what extent is technology deployed in service of the ideas of those behind the lens? In this course, we will explore changing notions of beauty and their relationship to the technologies and media through which it is viewed.

SM 745. (ANTH740) Media Ethnography: Theory and Practice. (M) Jackson.

This course will allow students to conduct 'critical readings' of ethnographic engagements with television, radio and film as cultural phenomena. We will examine how ethnographers use their method and genre to understand the production, reception and circulation of mass media. We will also draw on contemporary social/critical theory to unpack some of the epistemological assumptions organizing and anchoring such qualitative work. (The internet will also be discussed.)

SM 750. Seminar in Media Industries. (M) Turow. Prerequisite(s): COMM 550 and/or COMM 530.

This research seminar will center on the processes and social implications of out-of-home advertising and other forms of marketing communication. The course encourages students to tackle emerging issues related to any number of traditional or emerging media, including mobile handsets; billboards (digital and traditional); event marketing; event sponsorship; transit materials; and the panoply of in-store marketing vehicles including architecture, packaging, radio, television, computer-laden carts, signage, floor mats, and more. Social issues related to these issues are many; they include privacy, surveillance, industrial constructions of audiences, varieties of redlining, understandings of food and food-culture, and definitions of identity and public-private space. Marketers say that out-of-home advertising is the fastest growing-form of advertising next to internet advertising. During the past couple of years, every major media conglomerate has joined the race to track and reach people as they move through the world. Oddly, communication researchers have virtually ignored this part of our world. So I think there is here an opportunity here to push a new research agenda.

SM 753. (LAW 914) The Internet, State Power, and Free Expression: Media Policy Evolution in a Evolving Global Context. Price.

Global Internet policy is a zone of contestation, with states, corporations, civil society, and "netizens" seeking to assert particular perspectives. This course studies processes and rhetoric of Internet policy-making. It seeks to identify the major competing positions and the structures in key countries charged with projecting and obtaining global consensus. Among the concepts to be analyzed in this context are "sovereignty," "Internet freedom," "multi-stakeholder involvement," and the growing role of cybersecurity. There will be sessions on the WCIT meetings in Dubai in 2012 and its predecessors, on approaches to Internet policy in US, China and Brazil, Russia and India. We shall explore the relationship between national policy making and global approaches.

SM 760. Social Constructions of Reality. (C) Krippendorff.

This seminar inquires into the principles and processes by which realities come to be socially constructed and discursively maintained. It serves as an introduction to the emerging epistemology of

communication, which is concerned less with what communication is than with what it does, constitutes, and actively maintains, including when being studied. The seminar develops analytical tools to understand how realities establish themselves in language and action, how individuals can become entrapped in their own reality constructions, how facts are created and institutions take advantage of denying their constructedness. After reading several exemplary studies, students explore the nature of a construction on their own. The seminar draws on the discourse of critical scholarship and emancipatory pursuits, which are allied with feminist writing, cultural studies, and reflexive sociology. It is committed to dialogical means of inquiry and takes conversation as an ethical premise.

SM 762. Visual Communication Seminar. Messaris.

Implementation of persuasion theories in the design and creation of advertising for social causes.

799. Independent Research. (C) Staff.

Proposal written in specified form and approved by both the student's project supervisor and academic advisor or another member of the faculty must be submitted with registration.

SM 809. (SOC1809) Digital Media and Social Theory. (M) Yang.

This course explores critical issues in contemporary society through the lens of digital media studies and social theory. The goal is to build constructive dialogues between digital media studies and contemporary social theory. Special attention will be given to how social theory may inform the theorizing and empirical analysis of digital culture, politics, and practices. We will read monographs on globalization, power and control, dissent and protest, self and community, and the public sphere as they relate to digital media technologies. They include works by McLuhan, Castells, Turkle, Papacharissi, Lievrouw, Bimber, W. Chun and more. These monographs will be examined alongside the works of Gramsci, Foucault, Williams, Habermas, Bourdieu, Giddens, and Melucci. Students are required to submit weekly reading reports, make oral presentations, and complete a term paper.

SM 846. Ordinary People and the Media: The Demotic Turn.

This course will explore the historical, theoretical and methodological roots of the way media circulations have been shaped in public moral (including as a category of

political) discourse. Evolving media have been met with evolving discourses of promise and portent, some expressed or experienced as moral panics. This course will expand the boundaries of commonplace academic and lay discourses, by looking for sources in American culture to explain the extents and limits of these ideas of the meaning of mediation. The course will assume significant contributions from American religious cultures, looking beyond their taken-for-granted (while significant) role in establishing formal standards of acceptability to inquire specifically about the role of Protestantism as a definitive source in the American experience. While it is not a singular objective the course, some consideration will be given to re-thinking how a more substantive understanding along these lines might contribute to a more robust definition of a specifically American cultural studies tradition.

847. Development Communication and Social Change. (C)

If we are to improve our attempts to address serious global problems and resolve devastating conflicts, we must re-evaluate development communication as a practice and as an approach. Development communication engages the strategic application of communication technologies and processes to resolve social problems. This course surveys the field of development communication, from its historical conceptions toward its current practice. Following our discussions of the dominant approaches to understanding development communication and subsequent critiques, we consider alternative approaches advocating participation, liberation, resistance, and recognizing power as a central dimension. This course takes a critical approach toward understanding how development organizations produce communication strategies and how strategic interventions communicate assumptions about development. We discuss how communication campaigns, entertainment-education strategies, and digital media are being used in strategic intervention. In the final section, we explore development discourse concerning the nature of development and social change, through activist strategies promoting consumption and advocating social justice.

SM 848. Decoding the Social World. (M) Gonzalez-Bailon.

Have digital technologies, and the new data they provide, helped us advance old theoretical debates about communication and the role it plays in social life? How

was social thought shaped by previous technological breakthroughs and how is the digital revolution shaping our theories today? What are the questions that are still open, the puzzles that require further research and more theoretical development? This seminar will consider these and related questions, offering a (personal) overview of the frontiers of communication research as seen through the lens of digital data and with a focus on the identification of social mechanisms. The discussions will be articulated around two forthcoming books: 'Decoding the Social World: When Data Science Meets Communication,' and 'The Oxford Handbook of Communication in the Networked Age,' which will offer a starting point to start thinking about theoretical problems and the best empirical strategies to solve them.

SM 850. The Body: Theory, Method, Discourse. (M) Kraidy. This seminar examines the body as a central communication problematic in theory & research. We will read a wide-ranging selection of essays, articles and books, examining a variety of research traditions that have focused on the body - phenomenology, feminism, biopolitics, etc - across the humanities and social sciences. We will explore how the body has been understood as tool, symbol, icon, battleground, and lived experience. In turn we will examine contemporary applications, ending with digital culture, of these approaches through notions of affect, aesthetics, materiality, embodiment, performativity, docility, social action, and creative insurgency. Though theoretical, this seminar has a strong methodological component focusing on discourse analysis.

SM 856. Privacy, Surveillance & Marketplace. (M) Turow.

This class will look at various philosophical and sociological perspectives on privacy, put them into historical context, and explore some of the dynamics of the contemporary marketplace that may (or may not) affirm Sun Microsystems CEO Scott McNealy's 1999 comment to reporters and analysts, "You have zero privacy anyway. Get over it." The class will involve mainly reading and discussion, with possibly a paper that extends a stream of the readings in a particular direction.

SM 857. Advanced Qualitative Research. (M) Marvin.

For students writing qualitative dissertation proposals. Seminar members will read and respond to one another's developing drafts and preliminary research. We will talk

through unfolding projects and develop research and writing practice. For most students the goal is to produce a defensible proposal by the end of the semester. In some cases students who are not writing formal proposals but are beginning to focus on literature review & dissertation design may find this seminar useful. Adviser approval required for enrollment.

SM 860. (SOCI860) Global Media Activism: The 1960s. Yang.

The long 1960s witnessed the explosion of media and activism on a global scale. From the French May Movement in 1968 to the Chinese Cultural Revolution, from the student protests in Zimbabwe, Germany and Brazil to Women's Liberation and the New Left in the United States, political radicalism was deeply intertwined with activist and alternative media and the mainstream press. The ideological divide of the Cold War not only failed to stop the transnational flows of the narratives and icons of radicalism, but gave them a fateful potency. In this process, the meanings and forms of political activism were transformed. This seminar analyzes this wave of political activism and its media practices while tracing its long-term consequences, memories, and legacies. Our goal is to understand media and activism in a pivotal period of global modernity as well as the historical origins of mediated activism in the 21st century.

SM 867. (SOCI867) Media and Social Movements. (M) Gonzalez-Bailon, Pickard & Yang.

Examines the meanings and roles of media and communication in social movements; analyzes media reform activism; studies both historical movements and contemporary protests around the world (Arab Spring, Indignados, Occupy, etc); covers a broad range of theoretical perspectives, especially network and diffusion theories, political economy, narrative theory, and theories of performance. Students are required to submit a final research paper.

SM 869. Ethnography and the Internet. (M) Lingel. Prerequisite(s): Completion of graduate level research methods course.

This course covers qualitative and interpretive methods for investigations of socio-technical phenomena related to digital culture and online life. Concentrating on ethnographic methods, the course will cover methodological issues common to research on digital technologies, drawing on theorists from communication, media studies, information

studies, sociology, anthropology and internet studies. In addition to developing a sophisticated understanding of ethical and methodological issues surrounding ethnography and online life, students will complete a research proposal for a qualitative or interpretive study of online phenomena.

SM 870. (SOCI820) Introduction to the Political Economy of Media. (M) Yang.

This seminar provides an in-depth analysis of media institutions and practices in modern China, with an emphasis on the contemporary scene. A main goal is to identify and explore critical new questions for advanced empirical and historical research. We will read major works on selected media genres (newspapers, television, radio, films, documentary films, and the internet) and analyze their theoretical and empirical contributions. Another goal is to understand the causes and dynamics of media control and media innovation, the formation of publics and counterpublics, and the role of media and political change. We will examine how the state and the market shape media practices in different media genres and how media professionals, artists, citizens, and audience negotiate change. The analysis will be linked to the current scholarly debates on the evolution of Chinese authoritarianism and a Chinese-style civil society. Students will complete a term paper based on primary research. The research project may be done individually or in collaboration with classmates,

SM 871. Computational Social Science Seminar. (M) Centola.

This is an advanced graduate research seminar in which guest speakers will present cutting-edge research in Computational Social Science. Our focus will be on carefully reading the speaker's work, and discussing in detail their theoretical models, empirical methods, and overall scientific contribution. Participants will also present in the seminar, which will help to prepare them for professional presentations of their work at conferences and job talks. This seminar will meet weekly.

SM 872. Internet Experiments Practicum. (M) Centola.

Web-based experiments are an exciting new way to do social science research online. They have created a vast number of new scientific opportunities for studying complex social systems. This course is an advanced undergraduate / graduate practicum that focuses on how to build

Internet experiments. Class participants will be exposed to the literature in computational social science that uses the Internet to study human behavior. Students will be expected to participate in a hands-on research project in which we build a new experiment to study complex social behavior. This course requires strong research and analytic abilities, and would be appropriate for both advanced social science majors with a strong technical background, and advanced computer science and engineering majors with a strong interest in social science. The practicum will meet weekly. Interested students will need to prepare a paragraph describing their interest and preparation for this course, and will be asked to discuss their background with Professor Centola.

SM 883. DESCRIBING YOUR DATA. (C)

This course is for students who have collected empirical data and will explore ways of describing data for scientific and translational purposes. For example, students will explore different ways to explore and visualize their data, write about their data (e.g., a conference abstract vs. a blog post), present their data (e.g., a conference talk vs. a pop talk) and make their data more reproducible. Students will also read scholarly work (oversampling, though not limited to work on media effects) and critique their work in relation to what is known about effective communication and reproducibility. Students should come prepared to engage with art, science and computer programming.

SM 885. Old Media and Digital Communication in Revolutionary Times. (M) Kraidy.

This doctoral seminar focuses on the material-virtual nexus in the emerging media environment. We will critically examine transformations undergone by old media like the human body, graffiti, puppetry and video, in the digital age, in addition to changes in various genres and acts of speech, including political parody, posing naked and tagging city walls. Aided by a wide, eclectic and provocative literature, we will pay special attention to two characteristics of the digital media ecology: (1) the crumbling of boundaries between nations, cultures, technologies, and media; and (2) the often contentious circulation of discourse enabled by the weakening of borders, especially in revolutionary times. We will also explore

(3) issues of aesthetics and affect in old-new media couplings. The Arab uprisings will operate as a principal locus for discussion and analysis, but like everything I teach this seminar will be global in scope and comparative in outlook. Course requirements include a major research paper, a book review, a reading presentation, and a research presentation.

SM 893. Networks, Theories, and Online Data: New Approaches to Social Change. (C) Centola.

How do fads and innovations spread across a population? Why do political parties polarize, or reach an unexpected consensus? How can social technologies help to promote the emergence of social movements and new democratic politics? This course examines theories of social change and innovation diffusion, in light of methodological advances in network science and computational social science. The new revolution in computing has created remarkable opportunities for doing social science research, and understanding the dynamics of how collective behaviors emerge and spread. The goal of the course is to think carefully about how formal/predictive models can be connected with empirical data. This course addresses research at the forefront of social science and complex systems. Participants will get the most out of the material by aggressively pursuing questions that emerge from the readings, and from participating in hands-on research projects. The expectation is that students will develop research projects, or mature existing projects, which will be the focus of their work for the course. They should use this course as a foundation for developing publishable research. This course will also focus on the presentation of research - emphasizing clear, intelligible presentations, suitable for disciplinary conferences.

SM 894. Introduction to Networks. (C) Gonzalez-Bailon.

Much of what we think and do is shaped by social interactions, by the behavior we see in other people, or the information we receive from them: we pay attention to what our friends or we monitor news through the feeds of social media, and we are more likely to use technologies already embraced by other users. Networks are behind those (and, by extension, most) dimensions of social life. They offer the language to capture the invisible structure of interdependence that links us together, and the means to analyze dynamics like

diffusion, influence, or the effects of media in an increasingly diverse information environment. The aim of this course is to introduce networks and the relational way of thinking. Students will gain the necessary literacy to read, interpret, and design network-based research; learn how to go from concepts to metrics; and draw and interpret networks through the lens of substantive research questions. We will pay equal attention to the theory and the empirics of network science, and set the foundations for more advanced work on networks.

SM 897. Legacy Media in Transition. (M) Turow.

The rise of the digital age has put enormous pressure on so-called legacy media industries. Those are businesses that rose to fame and fortune in the 19th and 20th centuries but are now having to fundamentally rethink their plans regarding audiences, subsidies, and delivery technologies. This class will focus on four legacy media industries: music recordings, newspapers, books, and television. For each, we will consider the history of the industry, the challenges it has faced in the we will consider the history of the industry, the challenges it has faced in the evolving digital environment. Students will write a paper on a topic related to one of these media or another legacy medium in transition.

SM 898. Social Influence, Media Effects and the Brain. (M) Falk.

Prerequisite(s): A graduate level statistics course, ability to read primary research articles in cognitive neuroscience (no course prereqs, but students with less background may need to do supplemental work at the front end).

Considerable resources are devoted to constructing mass media campaigns that persuade individuals to change their behavior and individuals exert powerfully influence one another without even knowing it. Still, our ability to design and select optimal messages and interventions is far from perfect. This course will review investigations in social and cognitive psychology and communication sciences that attempt to circumvent the limits of introspection by using biological and implicit measures, with particular focus on neuroimaging studies of social influence and media effects.

COMPARATIVE LITERATURE AND LITERARY THEORY (AS) {COML}

SM 001. (ENGL001) Approaches to Genre. (C) Dasbach. Communication within the Curriculum.

This is a topics course. This seminar engages questions of literary genre, including its function as a mediating presence for thinking about audience, literary history, and the marketplace. The theme of the seminar will change with the instructor. Customarily this course will be affiliated with Communication within the Curriculum (CWIC), and so will have a speaking and presentation component to it. The topic for Fall 2016 will be POETRY OUT LOUD.

SM 002. (ENGL002) Approaches to Literary Studies. (M) Ramu. Communication Within the Curriculum.

This is a topics course. The topic for Spring 2016 will be Novelizing the World: English in Strange Accents. This seminar studies the diversity and planetary reach of the English language in the 20th century, through novels, newspapers, and audio-clips from Africa, the Caribbean, Wales, South Asia and New Zealand. Between freedom-struggles, bad marriages, fake mystics, exploding mangoes and sports-commentary, we will ask how English has found color and second homes across the world, and how it has sustained or undone legacies of colonial dominance. We will also reflect, more broadly, on language itself, and on its historical and philosophical relation to political power and the need for belonging. Possible readings: Ken Saro-Wiwa, Jamaica Kincaid, Salman Rushdie, Keri Hulme, JM Coetzee, Chinua Achebe, VS Naipaul and Arundhati Roy. This is a "critical speaking" seminar that requires, and offers training in, oral presentation, besides two short essays and a peek at some archives.

SM 011. (GRMN003) Censored! A History of Book Censorship. (M) Wigin. Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

Although its pages may appear innocuous enough, bound innocently between non-descript covers, the book has frequently become the locus of intense suspicion, legal legislation, and various cultural struggles. But what causes a book to blow its cover? In this course we will consider a range of specific censorship cases in the west since

the invention of the printed book to the present day. We will consider the role of various censorship authorities (both religious and secular) and grapple with the timely question about whether censorship is ever justified in building a better society. Case studies will focus on many well-known figures (such as Martin Luther, John Milton, Voltaire, Benjamin Franklin, Goethe, Karl Marx, and Salman Rushdie) as well as lesser-known authors, particularly Anonymous (who may have chosen to conceal her identity to avoid pursuit by the Censor).

SM 012. (SAST004) India's Literature: Love, War, Wisdom and Humor. (M) Patel.

This course introduces students to the extraordinary quality of literary production during the past four millennia of South Asian civilization. We will read texts in translation from all parts of South Asia up to the sixteenth century. We will read selections from hymns, lyric poems, epics, wisdom literature, plays, political works, and religious texts.

SM 013. (SAST007) Introduction to Modern South Asian Literatures. Sreenivasan, R.

This course provides an introduction to the literatures of South Asia - chiefly India, Pakistan, and Bangladesh- between 1500 and the present. We will read translated excerpts from literary texts in several languages - Braj, Persian, Hindi, Urdu, Bengali, Marathi, Malayalam, and Tamil - and explore the relationship between these literary texts and their historical contexts. No prior knowledge of South Asia is required.

SM 014. (NELC008) Critical Speaking Seminar. Staff.

Topics vary from semester to semester.

SM 015. (ENGL016, MUSC016) Freshman Seminar. (M) Staff.

The primary goal of the freshman seminar program is to provide every freshman the opportunity for a direct personal encounter with a faculty member in a small setting devoted to a significant intellectual endeavor. Specific topics will be posted at the beginning of each academic year. Please see the College Freshman seminar website for information on current course offerings <http://www.college.upenn.edu/courses/seminars/freshman.php>. Fulfills Arts and Letters sector requirement.

SM 016. (CIMS015, ENGL015, ENGL016) Topics in Literature. (M) Staff. Freshman seminar.

This course will explore various topics within the diverse landscape of literature with an emphasis on a particular theme or genre.

021. (ENGL021) Medieval Literature and Culture. (M) Staff.

This course introduces students to four hundred years of English literary culture, from approximately 1100 to 1500. This period was marked by major transformations, not only with respect to government, law, religious practice, intellectual life, England's relation to the Continent (during the 100 Years War), the organization of society (especially after the Black Death), the circulation of literary texts, and the status of authors. Topics may include medieval women writers, manuscript production, literatures of revolt, courtly culture, Crusades, cross-Channel influences, and religious controversy.

SM 023. (GRMN023) In Praise of the Small. (M) Weissberg. Freshman seminar. All readings and lectures in English. No knowledge of German is required.

We can memorize aphorisms and jokes, carry miniature portraits with us, and feel playful in handling small objects. This seminar will ask us to pay attention to smaller texts, art works, and objects that may easily be overlooked. In addition to reading brief texts and looking at images and objects, we will also read texts on the history and theory of short genres and the small.

031. (ENGL031) Introduction to Renaissance Literature and Culture. (M) Loomba.

This course will introduce you to some of the most exciting and vital issues and texts--historical, cultural and literary--of Renaissance England. We will read a variety of men and women who take us into pre-modern worlds that are significantly different from our own, and yet help us understand our own modernity. Hence the readings will range from Shakespeare's plays or Donne's poems to a speech by Queen Elizabeth's or Columbus's letter announcing the "discovery" of the Americas. We will try to understand the fashioning of various identities--such as those of gentleman, lady, monarch or subject--at this time. We will trace the changing meanings of gender, the family, love, authority, the nation and race. And most importantly, we will see how literary

texts contribute to these meanings in their own distinctive ways.

052. (HIST054) Books that Made History. (M) Moyer.

It is often said that books reflect the society in which they were written. Yet many books--and their authors--shaped society, and changed how people understood the world around them. In this course we will focus on a variety of texts from the world of Rome to 1600, the era in which European society took form. In each case, we will seek not only to understand the work itself, but also how it affected the lives and the thought of its readers. Works will range from Cicero and the Biblical New Testament to Luther and Machiavelli.

053. (AFST053, MUSC051, RELS115) Music of Africa. Muller.

African Contemporary Music: North, South, East, and West. Come to know contemporary Africa through the sounds of its music: from South African kwela, jazz, marabi, and kwaito to Zimbabwean chimurenga; Central African soukous and pygmy pop; West African fuji, and North African rai and hiphop. Through reading and listening to live performance, audio and video recordings, we will examine the music of Africa and its intersections with politics, history, gender, and religion in the colonial and post-colonial era.

055. (ENGL055, GSWS055) 19th-Century Novel. (A) Staff.

During the nineteenth century the novel became the dominant literary form of its day, supplanting poetry and drama on both sides of the Atlantic. In this introduction to the novelists of the period, we will read the writers who secured the novel's cultural respectability and economic prominence. Likely authors will include Austen, the Brontes, Collins, Dickens, Eliot, Hardy, Hawthorne, Melville, Poe, Thackeray, Scott, and Stowe. The course will explore the themes, techniques, and styles of the nineteenth-century novel. It will focus not only on the large structural and thematic patterns and problems within each novel but also on the act of reading as a historically specific cultural ritual in itself.

SM 056. (AFRC056, AFST056, MUSC056) Seeing/Hearing South Africa: Politics and History through Contemporary Performance. Muller.

Students engage with South African performance and political history; the history of the festival in Grahamstown; and listen closely to the history of South African jazz; they are given guidelines for writing about live performances; students

discuss program choices; and spend some time talking about travel to South Africa and the lived experience of two weeks at the National Arts Festival. Everyone travels to the National Arts Festival in late June and spends two weeks attending live performances (4-6 per day), blogging on the performances, discussing these experiences with the Professor and fellow students; we visit a game park and do a "township tour" as part of the two weeks in the Eastern Cape. On returning home, students have about 4 weeks to write a substantial paper on the festival experience. While this is primarily a music class, the National Arts Festival includes all kinds of performances--theater, music, dance, and visual arts, of all kinds. This is two weeks of total immersion in the arts, and thinking deeply about the place of the arts in contemporary arts and society.

SM 057. (JWST151, NELC156, RELS027) Great Books of Judaism.

(A) Arts & Letters Sector. All Classes. Staff.

The Babylonian Talmud (Bavli), a product reflecting the collaborative effort of generations of sages, is the foundational legal and ethical document of rabbinic Judaism. Both the methods of interpreting this text --and their theoretical frameworks--have varied dramatically, evolving creatively throughout the generations. In the past century, theories of how to read the Talmud and hypotheses about its formation and redaction have opened up new avenues for understanding what the text says and, more importantly, how it works. Through in-depth examination of demonstrative legal passages, this course will contrast the insights generated by the major critical schools of the past century and with the interpretations of selected medieval scholars, the Rishonim. English translations will be provided alongside the original texts. Previous study of Talmud is helpful.

059. (ENGL059) Modernisms and Modernities. (M) Staff.

This is a topics course. The topic for Spring 2016 is LITERATURE GONE VIRAL. This class explores the international emergence of modernism, typically from the middle of the 19th century to the middle of the 20th century. We will examine the links between modernity, the avant-garde, and various national modernisms that emerged alongside them. Resolutely transatlantic and open to French, Spanish, Italian, German, or Russian influences, this course assumes the very concept of Modernism to necessitate an international perspective focusing on the new in

literature and the arts -- including film, the theatre, music, and the visual arts. The philosophies of modernism will also be surveyed and concise introductions provided to important thinkers like Marx, Nietzsche, Sorel, Bergson, Freud, and Benjamin.

062. (ENGL062) 20th-Century Poetry. (M) Staff.

From abstraction to beat, from socialism to negritude, from expressionism to ecopoetry, from surrealism to visual poetry, from collage to digital poetry, the poetry of the twentieth century has been characterized by both the varieties of its forms and the range of its practitioners. This course will offer a broad overview of many of the major trends and a few minor eddies in the immensely rich, wonderfully varied, ideologically and aesthetically charged field. The course will cover many of the radical poetry movements and individual innovations, along with the more conventional and idiosyncratic work, and will provide examples of political, social, ethnic, and national poetries, both in the Americas and Europe, and beyond to the rest of the world. While most of the poetry covered will be in English, works in translation, and indeed the art of translation, will be an essential component of the course.

065. (AFST065, ENGL065) 20th-Century British Novel. (M) Staff.

This course traces the development of the novel across the twentieth-century. The course will consider the formal innovations of the modern novel (challenges to realism, stream of consciousness, fragmentation, etc.) in relation to major historical shifts in the period. Authors treated might include: Conrad, Lawrence, Joyce, Forster, Woolf, Cather, Faulkner, Hemingway, Achebe, Greene, Rhys, Baldwin, Naipaul, Pynchon, Rushdie, and Morrison.

069. (ENGL069) Poetry and Poetics. (M) Staff.

What is poetry and what place does it have among literary forms? What is its relation to culture, history, and our sense of speakers and audiences? This course will focus on various problems in poetic practice and theory, ranging from ancient theories of poetry in Plato and Aristotle to contemporary problems in poetics. In some semesters a particular school of poets may be the focus; in others a historical issue of literary transmission, or a problem of poetic genres, such as lyric, narrative, and dramatic poetry, may be emphasized. The course will provide a basic knowledge of poetics in English with some sense of the

historical development of metrics. This course is a good foundation for those who want to continue to study poetry in literary history and for creative writers concentrating on poetry.

074. (ENGL075, HIST117, HSOC110, STSC110) Science and Literature. (M) Arts & Letters Sector. All Classes. Staff.

This course will explore the emergence of modern science fiction as a genre, the ways it has reflected our evolving conceptions of ourselves and the universe, and its role as the mythology of modern technological civilization. We will discuss such characteristic themes as utopias, the exploration of space and time, biological engineering, superman, robots, aliens, and other worlds--and the differences between European and American treatment of these themes.

090. (AFRC090, ENGL090, GSWS090) Women and Literature. (C) Staff. This is a topics course. If the topic is "Gender, Sexuality, and Literature," the following description applies.

This course will focus on questions of gender difference and of sexual desire in a range of literary works, paying special attention to works by women and treatments of same-sex desire. More fundamentally, the course will introduce students to questions about the relation between identity and representation. We will attend in particular to intersections between gender, sexuality, race, class, and nation, and will choose from a rich vein of authors: Mary Wollstonecraft, Jane Austen, Mary Shelley, Lord Byron, the Brontes, Christina Rossetti, George Eliot, Oscar Wilde, Henry James, Gertrude Stein, Zora Neale Hurston, E. M. Forster, Virginia Woolf, Nella Larsen, Radclyffe Hall, Willa Cather, Elizabeth Bishop, Jean Rhys, James Baldwin, Sylvia Plath, Bessie Head, Audre Lorde, Adrienne Rich, Cherr'e Moraga, Toni Morrison, Michael Cunningham, Dorothy Allison, Jeanette Winterson, and Leslie Feinberg.

093. (ENGL093, GSWS093, LALS093) Introduction to Postcolonial Literature. (M) Staff. This is a topics course.

English is a global language with a distinctly imperial history, and this course serves as an essential introduction to literary works produced in or about the former European colonies. The focus will be poetry, film, fiction and non fiction and at least two geographic areas spanning the Americas, South Asia, the Caribbean and Africa as they reflect the impact of colonial

rule on the cultural representations of identity, nationalism, race, class and gender.

094. (ENGL094, GRMN279) Introduction to Literary Theory. (M) Staff.

This course introduces students to major issues in the history of literary theory. Treating the work of Plato and Aristotle as well as contemporary criticism, we will consider the fundamental issues that arise from representation, making meaning, appropriation and adaptation, categorization and genre, historicity and genealogy, and historicity and temporality. We will consider major movements in the history of theory including the "New" Criticism of the 1920s and 30s, structuralism and post-structuralism, Marxism and psychoanalysis, feminism, cultural studies, critical race theory, and queer theory.

100. (ENGL100, RUSS195) Introduction to Literary Study. (C) Arts & Letters Sector. All Classes. Staff.

Literature does not exist for your protection. So dangerous is it, that Socrates argued poets ought to be banned from his ideal Republic. And Socrates himself--one of the most subversive of all poetic thinkers--was condemned to death for corrupting the young with his speeches. All great literature is unsettling and alarming. Along with its beauty and delicacy and rhetorical power and ethical force, it can be terrifyingly sublime and even downright ugly: full of contempt and horror and grandiosity and malice. From Socrates' day to our own, countless writers have been jailed, exiled, and murdered, their works censored, banned, burned, for daring to say what others wish would remain unsaid--about religion and the State; sexuality, gender, and the body; art, science, and commerce; freedom and order; love and hate--and for saying it in ways that are aesthetically innovative, surprising, seductive, ravishingly unanticipated.

101. (FOLK101, NELC181, RELS108) Introduction to Folklore. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Ben-Amos.

The purpose of the course is to introduce you to the subjects of the discipline of Folklore, their occurrence in social life and the scholarly analysis of their use in culture. As a discipline folklore explores the manifestations of expressive forms in both traditional and modern societies, in small-scale groups where people interact with each face-to-face, and in large-scale, often industrial societies, in which the

themes, symbols, and forms that permeate traditional life, occupy new positions, or occur in different occasions in in everyday life. For some of you the distinction between low and high culture, or artistic and popular art will be helpful in placing folklore forms in modern societies. For others, these distinction will not be helpful. In traditional societies, and within social groups that define themselves ethnically, professionally, or culturally, within modern heterogeneous societies, and traditional societies in the Americas, Africa, Asia, Europe and Australia, folklore plays a more prominent role in society, than it appears to plan in literate cultures on the same continents. Consequently the study of folklore and the analysis of its forms are appropriate in traditional as well as modern societies and any society that is in a transitional phase.

L/R 104. (CIMS104, ENGL104) Study of a Period. (C) Arts & Letters Sector. All Classes. Staff.

This is an introduction to literary study through a survey of works from a specific historical period--often the 20th century, but some versions of this course will focus on other times. We will explore the period's important artistic movements, ideas, and authors, focusing on interconnectedness of the arts to other aspects of culture.

106. (ENGL105, GSWS105) Topics in Literature and Society. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

This is a topics course. Topics vary each year.

SM 107. (CIMS014, GSWS100, ITAL100) Topics: Freshman Seminars. (C) Staff.

This is a topics course. Topics vary each year.

The topic of Spring 2016 will be WOMEN IN ITALIAN LITERATURE AND CINEMA.

L/R 108. (CLST100) Greek and Roman Mythology. (M) Arts & Letters Sector. All Classes. Struck.

Myths are traditional stories that have endured many years. Some of them have to do with events of great importance, such as the founding of a nation. Others tell the stories of great heroes and heroines and their exploits and courage in the face of adversity. Still others are simple tales about otherwise unremarkable people who get into trouble or do some great deed. What are we to make of all these tales, and why do people seem to like to hear them?

This course will focus on the myths of ancient Greece and Rome, as well as a few contemporary American ones, as a way of exploring the nature of myth and the function it plays for individuals, societies, and nations. We will also pay some attention to the way the Greeks and Romans themselves understood their own myths. Are myths subtle codes that contain some universal truth? Are they a window on the deep recesses of a particular culture? Are they entertaining stories that people like to tell over and over? Are they a set of blinders that all of us wear, though we do not realize it? Investigate these questions through a variety of topics creation of the universe between gods and mortals, religion and family, sex, love, madness, and death.

110. (ENGL087, HIST246, THAR110, URBS212) Theatre, History, Culture I, Classical Athens to Elizabethan London. (C) Arts & Letters Sector. All Classes. Staff. Fulfills Arts and Letters Distributional Requirement.

This course will explore the forms of public performance, most specifically theatre, as they emerge from and give dramatic shape to the dynamic life of communal, civic and social bodies, from their anthropological origins in ritual and religious ceremonies, to the rise of great urban centers, to the closing of the theaters in London in 1642. This course will focus on the development of theatre practice in both Western and non-Western cultures intersects with the history of cities, the rise of market economies, and the emerging forces of national identity. In addition to examining the history of performance practices, theatre architecture, scenic conventions and acting methods, this course will investigate, where appropriate, social and political history, the arts, civic ceremonies and the dramaturgic structures of urban living.

111. (ENGL097, THAR111) Theatre, History, Culture II. (C) Staff.

This course examines theatre and performance in the context of the broader urban, artistic and political cultures housing them from the Renaissance to the mid-19th century. Encompassing multiple cultures and traditions, it will draw on a variety of readings and viewings designed to locate the play, playwright, trend or concept under discussion within a specific socio-historical context. The evolution of written and performed drama, theatre architecture, and scenography will be examined in tandem with the evolution of various nationalisms, population shifts, and other commercial and material forces on theatrical entertainments. Readings consequently will be drawn not

only from plays and other contemporary documents, but also from selected works on the history, theory, design, technology, art, politics or society of the period under discussion.

SM 115. (ENGL111) Experimental Writing Seminar. (C) Bernstein.

Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with a different instructor.

It's clear that long-cherished notions of creativity are under attack, eroded by file-sharing, media culture, widespread sampling, and digital replication. How does writing respond to this environment? This workshop will rise to that challenge by employing strategies of appropriation, replication, plagiarism, piracy, sampling, plundering, as compositional methods. Along the way, we'll trace the rich history of forgery, frauds, hoaxes, avatars, and impersonations spanning the arts, with a particular emphasis on how they employ language. We'll see how the modernist notions of change, procedure, repetition, and the aesthetics of boredom dovetail with popular culture to usurp conventional notions of time, place, and identity, all as expressed linguistically.

116. (ENGL095) Introduction to Film Theory. Staff.

This course offers students an introduction to the major texts in film theory across the 20th and 21st centuries. The course gives students an opportunity to read these central texts closely, to understand the range of historical contexts in which film theories are developed, to explore the relationship between film theory and the major film movements, to grapple with the points of contention that have emerged among theorists, and finally to consider: what is the status of film theory today? This course is required for all Cinema

Studies majors, but is open to all students, and no prior knowledge of film theory is assumed. Requirements: Close reading of all assigned texts; attendance and participation in section discussions; 1 midterm exam; 1 take-home final exam.

SM 118. (CIMS111, RUSS111) Poetics of Screenwriting. (M) Todorov.

This course studies scriptwriting in a historical, theoretical and artistic perspective. We discuss the rules of drama and dialogue, character development, stage vs. screen-writing, adaptation of nondramatic works, remaking of plots, author vs. genre theory of cinema, storytelling in silent and sound films, the evolution of a script in the production

process, script doctoring, as well as screenwriting techniques and tools. Coursework involves both analytical and creative tasks.

L/R 119. (ENGL103) The Novel. (M) Arts & Letters Sector. All Classes. Staff.

An introduction to literary study through a genre, either the short story or poetry. Versions of this course will vary widely in the selection of texts assigned. Some versions will begin with traditional stories or poems, including a sampling of works in translation. Others will focus exclusively on modern and contemporary American short fiction or poetry. This course is designed for the General Requirement, and is ideal for the students wishing to take an English course but not necessarily intending to major.

SM 120. (NELC118) Iranian Cinema: Gender, Politics, Religion. (M) Entezari.

This seminar explores Iranian culture, society, history and politics through the medium of film. We will examine a variety of cinematic works that represent the social, political, economic and cultural circumstances of contemporary Iran, as well as the diaspora. Along the way, we will discuss issues pertaining to gender, religion, nationalism, ethnicity, and the role of cinema in Iranian society and beyond. Discussion topics will also include the place of the Iranian diaspora in cinema, as well as the transnational production, distribution, and consumption of Iranian cinema. Films will include those by internationally acclaimed filmmakers, such as Rakhshan Bani-Etemad, Asghar Farhadi, Bahman Ghobadi, Abbas Kiarostami, Mohsen Makhmalbaf, Dariush Mehrjui, Tahmineh Milani, Jafar Panahi, Marjane Satrapi and others. All films will be subtitled in English. No prior knowledge is required.

125. (ENGL103, FOLK125, NELC180, SAST124) Narrative Across Cultures. (C) Arts & Letters Sector. All Classes. Staff.

The purpose of this course is to present a variety of narrative genres and to discuss and illustrate the modes whereby they can be analyzed. We will be looking at shorter types of narrative: short stories, novellas, and fables, and also some extracts from longer works such as autobiographies. While some works will come from the Anglo-American tradition, a larger number will be selected from European and non-Western cultural traditions and from earlier time-periods. The course will thus offer ample opportunity for the exploration of the

translation of cultural values in a comparative perspective.

L/R 126. (GRMN242) Fantastic & Uncanny in Literature: Ghosts, Spirits and Machines. (A) Arts & Letters Sector. All Classes. Weissberg.

Do we still believe in spirits and ghosts? Do they have any place in an age of science of technology? Can they perhaps help us to define what a human being is and what it can do? We will venture on a journey through literary texts from the late eighteenth century to the present to explore the uncanny and fantastic in literature and Our discussions will be based on a reading of Sigmund Freud's essay on the uncanny, and extraordinary Romantic narratives by Ludwig Tieck, E.T.A. Hoffmann, Edgar Allan Poe, Nathaniel Hawthorne, Prosper

SM 127. (CIMS125, GSWS125, RUSS125) The Adultery Novel. (C) Arts & Letters Sector. All Classes. Staff. All readings and discussions in English.

The object of this course is to analyze narratives of adultery from Shakespeare to the present and to develop a vocabulary for thinking critically about the literary conventions and social values that inform them. Many of the themes (of desire, transgression, suspicion, discovery) at the heart of these stories also lie at the core of many modern narratives. Is there anything special, we will ask, about the case of adultery--once called "a crime which contains within itself all others"? What might these stories teach us about the way we read in general? By supplementing classic literary accounts by Shakespeare, Pushkin, Flaubert, Chekhov, and Proust with films and with critical analyses, we will analyze the possibilities and limitations of the different genres and forms under discussion, including novels, films, short stories, and theatre. What can these forms show us (or not show us) about desire, gender, family and social obligation? Through supplementary readings and class discussions, we will apply a range of critical approaches to place these narratives of adultery in a social and literary context, including formal analyses of narrative and style, feminist criticism, Marxist and sociological analyses of the family, and psychoanalytic understandings of desire and family life.

128. (ENGL103, GSWS128) The Diary. (M) Ben-Amos, B.

Diary writing is an intimate mode of expression in which individuals seek to find meaning in their personal lives and relations, responding to the external realities in which they live. Their coping is

subjected to their historical, educational and social contexts, and to the generic conventions of diary writing. This course examines the diary as a genre, exploring its functions, meanings, forms and conventions, comparing it with fictive and non-fictive autobiographical writings such as the diary novel, autobiography and the memoir, as well as comparative gender diary-writing.

SM 130. (CLST107) Ancient Drama. (M) Wilson.

This course will introduce students to some of the greatest works of dramatic literature in the western canon. We will consider the social, political, religious and artistic functions of drama in ancient Greece and Rome, and discuss both differences and similarities between ancient drama and modern art forms. The course will also pursue some broader goals: to improve students skills as readers and scholarly critics of literature, both ancient and modern; to observe the implications of form for meaning, in considering, especially, the differences between dramatic and non-dramatic kinds of cultural production: to help students understand the relationship of ancient Greek and Roman culture to the modern world; and to encourage thought about some big issues, in life as well as in literature: death, heroism, society, action and meaning.

141. (CLST140) Scandalous Arts. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Rosen.

What do the ancient Greek comedian Aristophanes, the Roman satirist Juvenal, have in common with Snoop Dogg and Eminem? Many things, in fact, but perhaps the most fundamental is that they are all united by a stance that constantly threatens to offend prevailing social norms, whether through obscenity, violence or misogyny. This course will examine our conceptions of art (including literary, visual and musical media) that are deemed by certain communities to transgress the boundaries of taste and convention. It juxtaposes modern notions of artistic transgression, and the criteria used to evaluate such material, with the production of and discourse about transgressive art in classical antiquity. Students will consider, among other things, why communities feel compelled to repudiate some forms of art, while others into classics."

SM 148. (AFRC148, RUSS149) Slavery and Serfdom. (M) Wilson.

During the Cold War, the United States and Russia were locked in an ideological battle, as capitalist and communist superpowers,

over the question of private property. So how did these two countries approach the most important question regarding property that ever faced human civilization: how could governments justify the treatment of its subjects, people, as property? In 1862, Russia abolished serfdom, a form of human bondage that had existed in its territories since the 11th century. Just a year later, in 1863, Abraham Lincoln signed the Emancipation Proclamation, declaring America's slaves then, thenceforward, and forever free. What forces, both domestic and international, both political and cultural, influenced this near simultaneous awakening in which huge swaths of the Russian and U.S. populations were liberated? While scholars have often sought to compare slavery and serfdom as institutions, this course does not attempt to draw connections between the two. Rather, we will focus on how the slavery/anti-slavery and serfdom/anti-serfdom debates were framed in each respective country as well as how Russia used American slavery and the U.S. used Russian serfdom to shape their own domestic debates.

SM 150. (ENGL105, RUSS193) War and Representation in Russia, Europe and the U.S. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

Representations of war have been created for as many reasons as wars are fought: to legitimate conflict, to celebrate military glory, to critique brutality, to vilify an enemy, to mobilize popular support, to generate national pride, etc. In this course we will examine a series of representations of war drawn from the literature, film, state propaganda, memoirs, visual art, etc. of Russia, Europe and the United States of the twentieth century.

151. (ENVS150, GRMN150) Water Worlds: Cultural Responses to Sea Level Rise & Catastrophic Flooding. (M) Arts & Letters Sector. All Classes. Richter.

As a result of climate change, the world that will take shape in the course of this century will be decidedly more inundated with water than we're accustomed to. The polar ice caps are melting, glaciers are retreating, ocean levels are rising, polar bear habitat is disappearing, countries are jockeying for control over a new Arctic passage, while low-lying cities and small island nations are confronting the possibility of their own demise. Catastrophic flooding events are increasing in frequency, as are extreme droughts. Hurricane-related storm surges, tsunamis, and raging rivers have devastated regions

on a local and global scale. In this seminar we will turn to the narratives and images that the human imagination has produced in response to the experience of overwhelming watery invasion, from Noah to New Orleans. Objects of analysis will include mythology, ancient and early modern diluvialism, literature, art, film, and commemorative practice. The basic question we'll be asking is: What can we learn from the humanities that will be helpful for confronting the problems and challenges caused by climate change and sea level rise?

152. (EUR151, RUSS151) Central & Eastern Europe. Verkholtantsev.

SM 163. (HIST227, SAST163) Empire and Popular Culture: India and the Metropole. (M) Mukharji.

This course will explore the everyday experiences of the empire of those who were located physically in the "metropolitan home". Beyond the politics and economics of the empire, this course studies the impact of the empire on the everyday lives of the British in the imperial age. Structured around how a Briton living in the 'home' might come to experience the empire through his/her encounters with the diverse cultural images and artefacts that were circulating since the turn of the nineteenth century, this course will specifically look at how these popular images of the Indian empire came to be informed by and in turn helped inform-the shifting imperial notions of masculinity, sexuality, class, race and even spirituality.

193. (ENGL099, FOLK241) Great Story Collections. (M) Arts & Letters Sector. All Classes. Azzolina.

This course is intended for those with no prior background in folklore or knowledge of various cultures. Texts range in age from the first century to the twentieth, and geographically from the Middle East to Europe to the United States. Each collection displays various techniques of collecting folk materials and making them concrete. Each in its own way also raises different issues of genre, legitimacy, canon formation, cultural values and context.

197. (RUSS197) Madness and Madmen in Russian Culture. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Vinitsky.

This course will explore the theme of madness in Russian literature and arts from the medieval period through the October Revolution of 1917. The discussion will include formative masterpieces by Russian writers (Pushkin, Dostoevsky, Tolstoy,

Chekhov, and Bulgakov), painters (Repin, Vrubel, Filonov), composers (Mussorgsky, Tchaikovsky, and Stravinsky), and film-directors (Protazanov, Eisenstein), as well as non-fictional documents such as Russian medical, judicial, political, and philosophical treatises and essays on madness.

SM 201. (ARTH290, CIMS201, ENGL291) Topics Film History. (M) Staff.

This is a topics course. Please check each semester for the topic on the Comparative Literature website: <http://ccat.sas.upenn.edu/Complit/>.

SM 203. (COLL228, ITAL203) Masterpieces-Italian Literature. (B) Arts & Letters Sector. All Classes. Staff.

Readings and reflections on significant texts of the Italian literary and artistic tradition exploring a wide range of genres, themes, cultural debates by analyzing texts in sociopolitical contexts. Readings and discussions in Italian.

SM 204. (RUSS202) Tolstoy. (M) Vinitsky. Ben Franklin Seminar.

This course consists of three parts. The first, How to read Tolstoy? deals with Tolstoy's artistic stimuli, favorite devices, and narrative strategies. The second, Tolstoy at War, explores the authors provocative visions of war, gender, sex, art, social institutions, death, and religion. The emphasis is placed here on the role of a written word in Tolstoy's search for truth and power. The third and the largest section is a close reading of Tolstoy's masterwork *The War and Peace* (1863-68) a quintessence of both his artistic method and philosophical insights.

SM 205. (JWST213, NELC383, RELS203) The Religious Other. (M) Fishman.

Course explores attitudes toward monotheists of other faiths, and claims made about these "religious Others" in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Strategies of "othering" will be analyzed through an exploration of claims about the Other's body, habits and beliefs, as found in works of scripture, law, theology, polemics, art, literature and reportage. Attention will be paid to myths about the other, inter-group violence, converts, cases of cross-cultural influence, notions of toleration, and perceptions of Others in contemporary life. Primary sources will be provided in English.

SM 209. (GRMN239) Sustainability & Utopianism. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Wiggin.

This seminar explores how the humanities can contribute to discussions of sustainability. We begin by investigating the contested term itself, paying close attention to critics and activists who deplore the very idea that we should try to sustain our, in their eyes, dystopian present, one marked by environmental catastrophe as well as by an assault on the educational ideals long embodied in the humanities. We then turn to classic humanist texts on utopia, beginning with More's fictive island of 1517. The "origins of environmentalism" lie in such depictions of island edens (Richard Grove), and our course proceeds to analyze classic utopian texts from American, English, and German literatures. Readings extend to utopian visions from Europe and America of the nineteenth and twentieth centuries, as well as literary and visual texts that deal with contemporary nuclear and flood catastrophes. Authors include: Bill McKibben, Jill Kerr Conway, Christopher Newfield, Thomas More, Francis Bacon, Karl Marx, Henry David Thoreau, Robert Owens, William Morris, Charlotte Perkins Gilman, Ayn Rand, Christa Wolf, and others.

212. (NELC201) Modern Middle Eastern Literature in Translation. (B) Arts & Letters Sector. All Classes. Gold.

The Middle East boasts a rich tapestry of cultures that have developed a vibrant body of modern literature that is often overlooked in media coverage of the region. While each of the modern literary traditions that will be surveyed in this introductory course-Arabic, Hebrew, Persian and Turkish-will be analyzed with an appreciation of the cultural context unique to each body of literature, this course will also attempt to bridge these diverse traditions by analyzing common themes-such as modernity, social values, the individual and national identity-as reflected in the genres of poetry, the novel and the short story. This course is in seminar format to encourage lively discussion and is team-taught by four professors whose expertise in modern Middle Eastern literature serves to create a deeper understanding and aesthetic appreciation of each literary tradition. In addition to honing students' literary analysis skills, the course will enable students to become more adept at discussing the social and political forces that are reflected in Middle Eastern literature, explore important themes and

actively engage in reading new Middle Eastern works on their own in translation. All readings are in English.

SM 213. (RELS218, RUSS213) Saints and Devils in Russian Literature. (M) Arts & Letters Sector. All Classes. Verkholantsev.

215. (NELC233) Arabic Literary Heritage. (A) Fakhreddine.

This course provides a survey of the genres and major figures in Arabic literary history from the 6th century up to the present day. Selections will be read in translation after a general introduction to the cultural background and a session devoted to the Qur'an and its influence, a sequence of sessions will be devoted to poetry, narratives, drama, and criticism. Each set of texts is accompanied by a collection of background readings which place the authors and works into a literary, political and societal context. This course thus attempts to place the phenomenon of "literature" into the larger context of Islamic studies by illustrating the links between Arab litterateurs and other contributors to the development of an Islamic/Arab culture on the one hand and by establishing connections between the Arabic literary tradition and that of other (and particularly Western) traditions.

SM 216. (SAST217, SAST517) CU in India: Topics Course. (E) Staff.

C.U. in India is a hybrid, domestic/overseas course series which provides students with the opportunity to have an applied learning and cultural experience in India. The 2-CU course requires: 1) 15 classroom hours at Penn in the Fall term 2) A 12-Day trip to India with the instructor during the winter break to visit key sites and conduct original research (sites vary) 3) 15 classroom hours at Penn in the Spring term and 4) A research paper, due at the end of the spring term. Course enrollment is restricted to students admitted to the program. For more information, and the program application, go to <http://sites.sas.upenn.edu/cuinindia>

SM 218. (COLL221, FREN231) Perspectives in French Literature. (A) Arts & Letters Sector. All Classes. Staff.

This basic course in literature provides an overview of French literature and acquaints students with major literary trends through the study of representative works from each period. Students are expected to take an active part in class discussion in French. French 221 has as its theme the presentation of love and passion in French literature.

SM 219. (COLL221, FREN232) Perspectives in French Literature. (A) Staff.

This basic course in literature provides an overview of French literature and acquaints students with major literary trends through the study of representative works from each period. Special emphasis is placed on close reading of texts in order to familiarize students with major authors and their characteristics and with methods of interpretation. They are expected to take an active part in class discussion in French.

SM 220. (HIST220, RUSS220) Russia and the West. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Vinitsky.

This course will explore the representations of the West in eighteenth- and nineteenth-century Russian literature and philosophy. We will consider the Russian visions of various events and aspects of Western political and social life - Revolutions, educational system, public executions, resorts, etc. - within the context of Russian intellectual history. We will examine how images of the West reflect Russia's own cultural concerns, anticipations, and biases, as well as aesthetic preoccupations and interests of Russian writers.

SM 221. (ENGL221) Topics in Medieval Literature. (M) Staff.

This seminar explores an aspect of medieval literature intensively; specific course topics will vary from year to year. Topics in the past have included the medieval performance, medieval women, and medieval law and literature. Please see the Comparative Literature website each semester for the topic: <http://ccat.sas.upenn.edu/Complit/>.

SM 222. (ENGL222, GSWS221) Topics In Romance. (M) Staff.

This seminar explores an aspect of epic or romance intensively; specific course topics will vary from year to year.

224. (AFST228) African Epic: Performance and Power. (M) Blakely.

Homer's Iliad and Odyssey from ancient Greece and Song of Roland from medieval France are familiar landmarks in world literature. In contrast, Sunjata Epic of Mali, Mwindo Epic of Congo and more than twenty-five other heroic narrative poems throughout Africa are less known but equally valuable for accessing ancient wisdom, exploits of heroes and heroines, cultural values, knowledge systems, and supernatural realms. An additional benefit of studying African epic is that they are performed today or in living memory, so

the cultural, performative, and social contexts are not obscured by centuries. These living traditions give us opportunities to more fully understand bards' roles, interaction of bard and audience, transformation from oral to written representation, and the extension of epic themes into other aspects of social life.

SM 226. (COML535, SAST227, SAST527) Hindi Nation and its Fragments. (C) Williams.

This course will trace the formation and contestation of a Hindi national public during the colonial and post-colonial periods, utilizing the post-colonial critical thought of writers in English like Partha Chatterjee, Gayatri Spivak, and Aijaz Ahmed, but also of critics writing in Hindi like Namvar Singh, Ashok Vajpevi, Rajendra Yadav, etc. Attention will be given to this manner in which the contours and character of this imagined community have been debated in the context of different literary, social, and political movements, with particular emphases given to aspects of gender, caste, and regional identity. Central to class discussions will be the question of what constitutes a language literature, and consequently what relation those concepts can have to nation in a multilingual state such as India. Readings will be in translation.

228. (HEBR250, JWST256, RELS220) Studies in Hebrew Bible. (C) Staff.

Prerequisite(s): HEBR 154 or the equivalent.

This course introduces students to the methods and resources used in the modern study of the Bible. To the extent possible, these methods will be illustrated as they apply to a single book of the Hebrew Bible that will serve as the main focus of the course.

SM 233. (GRMN233) Censored! The Book and Censorship since Gutenberg. (M) Wiggin.

Although its pages may appear innocuous enough, bound innocently between non-descript covers, the book has frequently become the locus of intense suspicion, legal legislation, and various cultural struggles. But what causes a book to blow its cover? In this course we will consider a range of specific censorship cases in the west since the invention of the printed book to the present day. We will consider the role of various censorship authorities (both religious and secular) and grapple with the timely question about whether censorship is ever justified in building a better society. Case studies will focus on many well-known figures (such as Martin Luther, John

Milton, Voltaire, Benjamin Franklin, Goethe, Karl Marx, and Salman Rushdie) as well as lesser-known authors, particularly Anonymous (who may have chosen to conceal her identity to avoid pursuit by the Censor).

SM 234. (ITAL232) The World of Dante. (M) Staff. Freshman Seminar.

Dante's masterpiece in context of 14th century culture. Selected cantos will connect with such topics as books and readers in the manuscript era, life in society dominated by the Catholic church (sinners vs. saints, Christian pilgrimage routes, the great Franciscan and Dominican orders), Dante's politics as a Florentine exile (power struggles between Pope and Emperor), his classical and Biblical literary models, his genius as a poet in the medieval structures of allegory, symbolism, and numerology. Field trip to University of Pennsylvania Rare Book Collection. Text in Italian with facing English translation.

SM 235. (HIST219, RUSS234, SLAV517) Medieval Russia: Origins of Russian Cultural Identity. (M) Verkholantsev.

This course offers an overview of the cultural history of Rus from its origins to the eighteenth century, a period which laid the foundation for the Russian Empire. The course takes an interdisciplinary approach to the evolution of the main cultural paradigms of Russian Orthodoxy viewed in a broader European context. Although this course is historical in content, it is also about modern Russia. The legacy of Medieval Rus is still referenced, often allegorically, in contemporary social and cultural discourse as the Russian, Ukrainian and Belarusian societies attempt to reconstruct and reinterpret their histories. In this course, students learn that the study of the medieval cultural and political history explains many aspects of modern Russian society, its culture and mentality. understanding of the region and its people.

236. (HIST333, RUSS240) Napoleonic Era and Tolstoy. (M) Holquist/Vinitzky. All readings and lectures in English.

In this course we will read what many consider to be the greatest book in world literature. This work, Tolstoy's War and Peace, is devoted to one of the most momentous periods in world history, the Napoleonic Era (1789-1815). We will study both the novel and the era of the Napoleonic Wars: the military campaigns of Napoleon and his opponents, the grand strategies of the age, political intrigues and diplomatic betrayals, the ideologies and

human dramas, the relationship between art and history. How does literature help us to understand this era? How does history help us to understand this great novel?

SM 239. (ASAM241, ENGL241, GSWS241) Topics in 18th Century Literature. (M) Staff.

This course explores an aspect of 18th-century literature intensively; specific course topics will vary from year to year.

SM 240. (FOLK240) Fairy Tales. (M) Staff.

This course surveys the fairy tale (Marchen) as an oral narrative genre, and in its transformations as literature, sequential art, and film. Topics include classic and contemporary collections from Europe, the United States, and beyond; issues of "authenticity" and the ownership of tales; fairy tales as folk performance, post-modern pastiche, and material culture; and the genre's relationship to geography, gender, power, and desire. This course will serve as a scholarly introduction to the field of Fairy-Tale Studies. And it may examine works from Matthew Bright, Angela Carter, Emma Donoghue, Guillermo Del Toro, Neil Gaiman, David Kaplan, and Bill Willingham.

L/R 241. (CIMS352, GRMN256, RELS236, RUSS188) The Devil's Pact in Literature, Music and Film. (A) Arts & Letters Sector. All Classes. Richter. All readings and discussions in English.

For as long as we have been modern, the legend of the devil's pact has been the preferred metaphor for the desire to surpass the limits of human knowledge and power at any cost. Starting with the sixteenth-century Faust Book, which recounts the story of a scholar, alchemist and necromancer who sold his soul to the devil, and extending to the present, this course offers students a chance to explore our enduring fascination with the forbidden. The main focus is on two masterpieces of world literature, Goethe's Faust, written toward the end of the Enlightenment, and Bulgakov's Master and Margarita, written during the height of Soviet Stalinism, in combination with samples from cinema and music, ranging from opera to rock and roll.

L/R 242. (RELS003) Religion and Literature. (C) Arts & Letters Sector. All Classes. Matter.

A consideration of how great works of literature from different cultural traditions have reclaimed and reinterpreted compelling religious themes. The focus this semester will be on themes of creation,

especially the creation of human beings, from ancient myths of different cultures to modern science fiction. This course fulfills the General Requirement in Sector 3, Arts and Letters.

L/R 245. (AFST102, CIMS112, ENGL102, GSWS102, PSYS102) Study of a Theme. (M) Arts & Letters Sector. All Classes. Staff. This is a topics course.

This is an introduction to literary study through the works of a compelling literary theme. (For offerings in a given semester, please see the on-line course descriptions on the English Department website). The theme's function within specific historical contexts, within literary history generally, and within contemporary culture, are likely to be emphasized.

247. (GRMN247, PHIL247) Free Radicals: Marx, Marxism, and the Culture of Revolution. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

"A spectre is haunting Europe--the spectre of Communism": This, the famous opening line of The Communist Manifesto, will guide this course's exploration of the history, legacy, and potential future of Karl Marx's most important texts and ideas, even long after Communism has been pronounced dead. Contextualizing Marx within a tradition of radical thought regarding politics, religion, and sexuality, we will focus on the philosophical, political, and cultural origins and implications of his ideas. Our work will center on the question of how his writings seek to counter or exploit various tendencies of the time; how they align with the work of Nietzsche, Freud, and other radical thinkers to follow; and how they might continue to haunt us today. We will begin by discussing key works by Marx himself, examining ways in which he is both influenced by and appeals to many of the same fantasies, desires, and anxieties encoded in the literature, arts and intellectual currents of the time. In examining his legacy, we will focus on elaborations or challenges to his ideas, particularly within cultural criticism, postwar protest movements, and the cultural politics of the Cold War. In conclusion, we will turn to the question of Marxism or Post-Marxism today, asking what promise Marx's ideas might still hold in a world vastly different from his own.

SM 248. (HIST230) Topics in European History. (C) Breckman. This is a topics course. Please see the Comparative Literature website for the each semester's topic:
<http://ccat/sas.upenn.edu/Complit/>.

The topic for Spring 2016 will be Machiavelli and Modern

SM 249. (CIMS250, ENGL251, GSWS250) Topics in 19th Century Literature. (C) Staff.

This course explores an aspect of 19th-century literature intensively; specific course topics will vary from year to year.

L/R 253. (ENGL240, GRMN253, GSWS252, HSOC253, STSC253) Freud: The Invention of Psychoanalysis. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Weissberg. All readings and lectures in English.

No other person of the twentieth century has probably influenced scientific thought, humanistic scholarship, medical therapy, and popular culture as much as Sigmund Freud. This seminar will study his work, its cultural background, and its impact on us today. In the first part of the course, we will learn about Freud's life and the Viennese culture of his time. We will then move to a discussion of seminal texts, such as excerpts from his *Interpretation of Dreams*, case studies, as well as essays on psychoanalytic practice, human development, definitions of gender and sex, neuroses, and culture in general. In the final part of the course, we will discuss the impact of Freud's work. Guest lecturers from the medical field, history of science, psychology, and the humanities will offer insights into the reception of Freud's work, and its consequences for various fields of study and therapy.

L/R 254. (CIMS244, GRMN244, URBS244) Metropolis: Culture of the City. (C) Arts & Letters Sector. All Classes. MacLeod. All readings and lectures in English.

An exploration of modern discourses on and of the city. Topics include: the city as site of avant-garde experimentation; technology and culture; the city as embodiment of social order and disorder; traffic and speed; ways of seeing the city; the crowd; city figures such as the detective, the criminal, the flaneur, the dandy; film as the new medium of the city. Special emphasis on Berlin. Readings by, among others, Dickens, Poe, Baudelaire, Rilke, Doebelin, Marx, Engels, Benjamin, Kracauer. Films include Fritz Lang's

Metropolis and Tom Tykwer's *Run Lola Run*.

SM 255. (RUSS261) Russian Thinkers. (M) Vinitzky.

This class focuses on the complex relations between philosophy, history, and art in Russia and offers discussions of works of major Russian authors (such as Dostoevsky, Tolstoy, Khlebnikov), religious and political thinkers (Chaadaev, Herzen, Berdiaev, Lenin, Bogdanov), avant-garde artists (Filonov, Malevich) and composers (Scriabin) who created and tested in their lives their own, sometimes very peculiar and radical, worldviews. We will consider these worldviews against a broad cultural background and will reenact them in class in the form of philosophical mini-dramas. The only prerequisite for this course is intellectual curiosity and willingness to embrace diverse, brave and often weird ideas.

256. (CIMS151, EALC151, GSWS257) Contemporary Fiction & Film in Japan. (M) Arts & Letters Sector. All Classes. Kano.

This course will explore fiction and film in contemporary Japan, from 1945 to the present. Topics will include literary and cinematic representation of Japan's war experience and post-war reconstruction, negotiation with Japanese classics, confrontation with the state, and changing ideas of gender and sexuality. We will explore these and other questions by analyzing texts of various genres, including film and film scripts, novels, short stories, manga, and academic essays. Class sessions will combine lectures, discussion, audio-visual materials, and creative as well as analytical writing exercises. The course is taught in English, although Japanese materials will be made available upon request. No prior coursework in Japanese literature, culture, or film is required or expected; additional secondary materials will be available for students taking the course at the 600 level. Writers and film directors examined may include: Kawabata Yasunari, Hayashi Fumiko, Abe Kobo, Mishima Yukio, Oe Kenzaburo, Yoshimoto Banana, Ozu Yasujiro, Naruse Mikio, Kurosawa Akira, Imamura Shohei, Koreeda Hirokazu, and Beat Takeshi.

SM 257. (JWST153, NELC158, NELC458, RELS223) Jewish Literature in the Middle Ages in Translation. (C) Fishman.

Course explores the cultural history of Jews in the lands of Islam from the time of Mohammed through the late 17th century (end of Ottoman expansion into Europe) --

in Iraq, the Middle East, al-Andalus and the Ottoman Empire. Primary source documents (in English translation) illuminate minority-majority relations, internal Jewish tensions (e.g., Qaraism), and developments in scriptural exegesis, rabbinic law, philosophy, poetry, polemics, mysticism and liturgy. Graduate students have additional readings and meetings.

259. (FOLK296, NELC254) Jewish Humor. (C) Arts & Letters Sector. All Classes. Ben-Amos.

In modern American popular culture Jewish humor is considered by Jews and non-Jews as a recognizable and distinct form of humor. Focusing upon folk-humor, in this course we will examine the history of this perception, and study different manifestations of Jewish humor as a particular case study of ethnic in general. Specific topics for analysis will be: humor in the Hebrew Bible, Jewish humor in Europe and in America, JAP and JAM jokes, Jewish tricksters and pranksters, Jewish humor in the Holocaust and Jewish humor in Israel. The term paper will be collecting project of Jewish jokes.

261. (CIMS259, GRMN259) Topics in German Cinema. (M) Staff.

This is a topics course. Specific topics vary from year to year.

SM 263. (ENGL265, GSWS266) Topics in 20th C. Novel. (C) Staff.

This course explores an aspect of the 20th-century novel intensively; specific course topics will vary from year to year.

265. (CIMS279, GRMN261, JWST261) Jewish Films and Literature. (B) Hellerstein.

From the 1922 silent film "Hungry Hearts" through the first "talkie," "The Jazz Singer," produced in 1927, and beyond "Schindler's List," Jewish characters have confronted the problems of their Jewishness on the silver screen for a general American audience. Alongside this Hollywood tradition of Jewish film, Yiddish film blossomed from independent producers between 1911 and 1939, and interpreted literary masterpieces, from Shakespeare's "King Lear" to Sholom Aleichem's "Teyve the Dairyman," primarily for an immigrant, urban Jewish audience. In this course, we will study a number of films and their literary sources (in fiction and drama), focusing on English language and Yiddish films within the framework of three dilemmas of interpretation: a) the different ways we "read" literature and film, b) the various ways that the media of fiction, drama, and

film "translate" Jewish culture, and c) how these translations of Jewish culture affect and are affected by their implied audience.

SM 266. (COLL227, HEBR259, HEBR559, JWST259) Introduction to Modern Hebrew Literature: Israeli Short Story. (M) Arts & Letters Sector. All Classes. Gold. Prerequisite(s): HEBR 059 or equivalent. The class will be conducted in Hebrew and the texts read in the original. There will be 3-4 short papers and a final exam.

Fall 2016: We will discuss literary works that reflect Israelis' struggle with their national identity. For the patriotic 1948 generation, self and country were one and the same while contemporary writers ask what it means to be Israeli. Yehuda Amichai's 1955 poem "I want to die in my bed" was a manifesto for individualism, yet the seemingly interminable Arab-Israeli conflict forced writers to return to the national, social, and political arenas starting in the 1980s, although in entirely different ways. Readings include works by the contemporary Orly Kastel Bloom, Etgar Keret and Sayed Kashua as well as by the early writers Natan Alterman, Amir Gilboa, Dahlia Ravikovitch, A.B. Yehoshua, and David Grossman. The class is conducted in Hebrew and all texts are read in the original. The amSeminar. Fulfills Arts & Letters. (HEBR 259, HEBR 559, COML 266, COLL 227)

SM 267. (CLST315, ENGL256, THAR275) Topics In Modern Drama. (M) Staff.

This course explores an aspect of Modern drama intensively; specific course topics will vary from year to year.

L/R 269. (CIMS257, GRMN257) Nazi Cinema. (M) Richter/MacLeod.

Cinema played a crucial role in the cultural life of Nazi Germany. As cinema enthusiasts, Goebbels and Hitler were among the first to realize the important ideological potential of film as a mass medium and saw to it that Germany remained a cinema powerhouse producing more than a 1000 films during the Nazi era. This general requirement course explores the world of Nazi cinema ranging from infamous propaganda pieces such as *The Triumph of the Will* and *The Eternal Jew* to entertainments by important directors such as Pabst and Douglas Sirk. More than sixty years later, Nazi Cinema challenges us to grapple with issues of more subtle ideological insinuation than we might think. The course also includes film responses to developments in Germany by exiled German directors (Pabst, Wilder)

and concludes with Mel Brooks' *The Producers*. All lectures and readings in English. Weekly screenings with subtitles.

270. (CIMS258, GRMN258) German Cinema. (M) Arts & Letters Sector. All Classes. MacLeod.

An introduction to the momentous history of German film, from its beginnings before World War One to developments following the fall of the Berlin Wall in 1989 and German reunification in 1990. With an eye to film's place in its historical and political context, the course will explore the "Golden Age" of German cinema in the Weimar Republic, when Berlin vied with Hollywood; the complex relationship between Nazi ideology and entertainment during the Third Reich; the fate of German film-makers in exile during the Hitler years; post-war film production in both West and East Germany; the call for an alternative to "Papa's Kino" and the rise of New German Cinema in the late 1960's.

SM 271. (CIMS261, ENGL361) Topics in 20th Century Literature. (M) Staff.

The course explores an aspect of 20th-century literature intensively; specific course topics will vary from year to year.

SM 273. (AFRC276, ENGL271) Topics in the Literature of Africa and the African Diaspora. (L) Staff.

This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year.

SM 274. (ENGL262) Topics: Twentieth Century Poetry. Staff.

The course explores an aspect of 20th-century poetry intensively; specific course topics will vary from year to year.

SM 277. (GRMN263, JWST261) Jewish American Literature. (C) Arts & Letters Sector. All Classes. Hellerstein.

What makes Jewish American literature Jewish? What makes it American? This course will address these questions about ethnic literature through fiction, poetry, drama, and other writings by Jews in America, from their arrival in 1654 to the present. We will discuss how Jewish identity and ethnicity shape literature and will consider how form and language develop as Jewish writers "immigrate" from Yiddish, Hebrew, and other languages to American English. Our readings, from *Jewish American Literature: A Norton Anthology*, will include a variety of stellar authors, both famous and less-known, including Isaac Mayer Wise, Emma Lazarus, Isaac Bashevis Singer, Celia

Dropkin, Abraham Cahan, Anzia Yezierska, Saul Bellow, Philip Roth, Cynthia Ozick, and Allegra Goodman. Students will come away from this course having explored the ways that Jewish culture intertwines with American culture in literature.

SM 280. (CIMS340, ITAL322) Italian Cinema. (M) Staff.

The course will consist of a broad and varied sampling of classic Italian films from WWII to the present. The curriculum will be divided into four units: (1) The Neorealist Revolution, (2) Metacinema, (3) Fascism and War Revisited, and (4) Postmodernism or the Death of the Cinema. One of the aims of the course will be to develop a sense of "cinematic literacy"--to develop critical techniques that will make us active interpreters of the cinematic image by challenging the expectations that Hollywood has implanted in us: that films be action-packed wish-fulfillment fantasies. Italian cinema will invite us to re-examine and revise the very narrow conception that we Americans have of the medium. We will also use the films as a means to explore the postwar Italian culture so powerfully reflected, and in turn, shaped, by its national cinema. Classes will include close visual analysis of films using video clips and slides. The films will be in Italian with English subtitles and will include works of Fellini, Antonioni, De Sica, Visconti, Pasolini, Wertuller, Rossellini, Rossellini, Bertolucci and Moretti.

SM 281. (ENGL269) Topics Poetry and Poetics. Staff.

This course explores an aspect of poetry and poetics intensively; specific course topics will vary from year to year.

282. (CIMS159, ENGL079, JWST154, NELC159) Modern Hebrew Literature and Culture in Translation. (A) Arts & Letters Sector. All Classes. Gold. There will be five film screenings; the films will also be placed on reserve at the library for those students unable to attend. The content of this course changes from year to year, and therefore, students may take it for credit more than once.

Fall 2016: In the first decade of the new millennium, the so called "Second Generation", children of Holocaust survivors reached maturity. Only in their 40s and 50s they finally began confronting and reconstructing their parents' experiences, as well as their own nightmarish childhoods. These include striking narratives *Our Holocaust* by Amir Gutfreund and *Corner People* by Esty G. Hayim as well as films like *Walk on Water*.

The third generation is also returning to the forbidden story with prize winning films like "The apartment." The quintessential Holocaust narrative The Diary of Anne Frank appeared in 1947, one year prior to the establishment of the Jewish State. Nevertheless, Israeli culture "waited" until the public trial of Adolf Eichmann in 1961 to hesitantly face the momentous catastrophe. The Zionist wish to forge a "New Jew" motivated this suppression, at least in part. Aharon Appelfeld's stories were the first Holocaust-related works to enter the modernist literary scene in the 1960s, followed by the cryptic verse of Dan Pagis, a fellow child survivor. It was not until 1988 that this practice of concealing the past was broken, when two Israeli-born pop singers, children of survivors, released the watershed documentary "Because of That War."

This course will follow and analyze the transformation of Israeli literature and cinema from instruments of suppression into a means of processing this national trauma. While Israeli works constitute much of the course's material, European and American film and fiction play comparative roles.

283. (FOLK280, JWST260, NELC258, RELS221) Jewish Folklore in Literature. (M) Ben-Amos.

The Jews are among the few nations and ethnic groups whose oral tradition occurs in literary and religious texts dating back more than two thousand years. This tradition changed and diversified over the years in terms of the migration of Jews into different countries and historical, social, and cultural changes that these countries underwent. The course attempts to capture their historical and ethnic diversity of Jewish folklore in a variety of oral literary forms.

SM 284. (ENGL270, LALS291, ROML290) Latin American Literature. (M) Ellis.

This course explores an aspect of Latina/o literature intensively; specific course topics will vary from year to year.

287. (FOLK202, NELC287) Ethnic Humor. (M) Ben-Amos, D.

Humor in ethnic societies has two dimensions: internal and external. The inside humor of an ethnic group is accessible to its members; it draws upon their respective social structures, historical and social experiences, languages, cultural symbols, and social and economic circumstances and aspirations. The external humor of an ethnic group targets members of other ethnic groups, and draws

upon their stereotypes, and attributed characteristics by other ethnic groups. The external ethnic humor flourishes in immigrant and ethnically heterogenic societies. In both cases jokes and humor are an integral part of social interaction, and in their performance relate to the social, economic, and political dynamics of traditional and modern societies.

SM 288. (AFRC288, ENGL288) Topics in American Poetry. (M) Staff.

Sometimes limiting itself to the works of one or two authors, sometimes focusing on a particular theme such as "American Poetry and Democratic Culture," this course devotes itself to the study of twentieth-century American poetry.

SM 290. (ENGL290, GSWS290) Topics Women in Literature. (M) Staff.

The advanced women's studies course in the department, focusing on a particular aspect of literature by and about women. Topics might include: "Victorian Literary Women"; "Women, Politics, and Literature"; "Feminist Literary Theory"; and similar foci.

SM 291. (ENGL294, GSWS296) Topics In Literary Theory. (M) Staff.

This course explores an aspect of literary theory intensively; specific course topics vary from year to year.

SM 292. (ARTH289, CIMS202, ENGL292, GSWS292) Topics Film Studies. (M) Beckman.

Specific course topics vary from year to year.

SM 295. (AFRC296, ARTH293, CIMS295, ENGL295) Topics in Cultural Studies. (M) Staff.

This course explores an aspect of cultural studies intensively; specific course topics vary from year to year.

SM 296. (CLST296, CLST360, ENGL229) Classical Epic and Medieval Romance. (M) Copeland.

This course looks at a number of strands in the broad epic tradition: narratives of warfare, quest narratives (both geographical and spiritual), and the combination of the two in narratives of chivalry and love. We will start with the Homeric poems, reading Iliad and Odyssey, and then we will see how Homeric themes are reprised in Virgil's narrative of travel, conquest, and empire, the Aeneid. From there we will move to one medieval epic of warfare, Beowulf. In the last part of the course we will read some Arthurian

romances, which take up certain themes familiar from epic, but place them in a new context: the medieval institution of chivalry, where the ancient warrior is replaced by the medieval knight, where the collective battle is replaced by the individual quest, and where the psychology of sexual desire is now foregrounded as a motivation for heroic self-realization.

SM 300. (CIMS300, ITAL300) Topics in Italian History, Literature, and Culture. (M) Staff.

This is a topics course. Topics will vary from year to year.

Topics vary. Please check the department's website for course description: <http://www.sas.upenn.edu/complit/>

301. (COLL225, GRMN301) Handschrift-Hypertext: Deutsche Medien. (L) Staff. Prerequisite(s): GRMN 203 is a prerequisite. This course will be offered every spring semester. Taught in German.

This course will provide an introduction to German-language literary studies through exemplary readings of short forms: fables, fairy tales, aphorisms, stories, novellas, feuilletons, poems, songs, radio plays, film clips, web projects and others. Paying particular attention to how emergent technology influences genre, we will trace an evolution from Minnesang to rock songs, from early print culture to the internet age and from Handschrift to hypertext. Students will have ample opportunity to improve their spoken and written German through class discussion and a series of internet-based assignments. Readings and discussions in German.

302. (CLST302) Odyssey and its Afterlife. (B) Murnaghan.

As an epic account of wandering, survival, and homecoming, Homer's Odyssey has been a constant source of themes and images with which to define and redefine the nature of heroism, the sources of identity, and the challenge of finding a place in the world.

SM 310. (GSWS310, ITAL310) The Medieval Reader. (M) Staff.

Through a range of authors including Augustine, Dante, Petrarch, Galileo, and Umberto Eco, this course will explore the world of the book in the manuscript era. We will consider 1) readers in fiction-male and female, good and bad; 2) books as material objects produced in monasteries and their subsequent role in the rise of the universities; 3) medieval women readers and writers; 4) medieval ideas of the book as a symbol (e.g., the notion of the world as God's book); 5) changes in book culture

brought about by printing and electronic media. Lectures with discussion in English, to be supplemented by visual presentations and a visit to the Rare Book Room in Van Pelt Library. No prerequisites.

SM 322. (CIMS322, GSWS322) Advanced Topics in Global Gender and Sexuality Studies. Staff.

Violence against Women in Conflict: Sexuality, Terrorism, and Human Rights
This course explores how women's experiences of violence in conflict are guided by traditional patriarchal views of femininity, and further how this violence impacts their human rights. Through academic texts, documents produced by the U.N. and NGOs globally, and documentaries, we will consider women's experiences of violence in contexts such as: how rape is used to decipher the borders and boundaries of emerging nations, as in the 1994 genocide in Rwanda; the highly complex experiences of women suicide bombers in the Israeli-Palestinian and Sri Lankan conflicts; the relationship between domestic violence in the private/home space and the violence of war in the public space; and sexual violence against women in the U.S. military.

SM 324. (COML624, SAST324, SAST624) Sanskrit Literature and Poetics. (M) Patel.

This course will focus solely on the specific genres, themes, and aesthetics of Sanskrit literature (the hymn, the epic, the lyric, prose, drama, story literature, the sutra, etc.) and a study of the history and specific topics of Sanskrit poetics and dramaturgy. All readings will be in translation.

SM 329. (CLST329, ENGL329) Topics in Classicism and Literature. (M) Staff. Benjamin Franklin Seminar.

This advanced seminar will examine the classical backgrounds to English poetry, in particular the Biblical and Greco-Roman antecedents to Renaissance lyric verse and verse drama (such as, preeminently, Shakespeare). Different versions of this course will have different emphases on Biblical or Hellenistic backgrounds.

SM 330. (DTCH330, GRMN330) Adv Topics Dutch Studies. (M) Staff.

Taught in English.
Topics vary annually.

SM 332. (ENGL356) Topics In Modern Drama. (A) Staff. Benjamin Franklin Seminar.

This course explores an aspect of Modern drama intensively; specific course topics will vary from year to year.

SM 333. (ITAL333) Dante's Divine Comedy. (C) Brownlee.

In this course we will read the *Inferno*, the *Purgatorio* and the *Paradiso*, focusing on a series of interrelated problems raised by the poem: authority, fiction, history, politics and language. Particular attention will be given to how the *Commedia* presents itself as Dante's autobiography, and to how the autobiographical narrative serves as a unifying thread for this supremely rich literary text. Supplementary readings will include Virgil's *Aeneid* and selections from Ovid's *Metamorphoses*. All readings and written work will be in English. Italian or Italian Studies credit will require reading Italian texts in the original language and writing about their themes in Italian. This course may be taken for graduate credit, but additional work and meetings with the instructor will be required.

SM 334. (SAST334) A Survey of Sanskrit, Prakrit, and Classical Tamil Literature in Translation. (M) Patel.

This course will cover most of the genres of literature in South Asia's classical languages through close readings of selections of primary texts in English translation. Special focus will be given to epics, drama, lyric poetry, satirical works, and religious literature.

343. (HIST343) Nineteenth Century European Intellectual History. (A) Breckman.

Starting with the dual challenges of Enlightenment and Revolution at the close of the eighteenth century, this course examines the emergence of modern European thought and culture in the century from Kant to Nietzsche. Themes to be considered include Romanticism, Utopian Socialism, early Feminism, Marxism, Liberalism, and Aestheticism. Readings include Kant, Hegel, Burke, Marx, Mill, Wollstonecraft, Darwin, Schopenhauer, and Nietzsche.

344. (HIST344) 20th Century European Intellectual History. (B) Breckman.

European intellectual and cultural history from 1870 to 1950. Themes to be considered include aesthetic modernism and the avant-garde, the rebellion against rationalism and positivism, Social Darwinism, Second International

Socialism, the impact of World War One on European intellectuals, psychoanalysis, existentialism, and the ideological origins of fascism. Figures to be studied include Nietzsche, Freud, Woolf, Sartre, Camus, and Heidegger.

SM 350. (GSWS350) Introduction to Criticism. (M) Staff.

This course includes both a general survey of classic writings in Western aesthetics as well as readings on the major trends in literary criticism in the twentieth century. A recurring theme will be the literary canon and how it reflects or influences values and interpretative strategies. Among the topics covered are feminist literary criticism, structuralism and poststructuralism, Marxist criticism, and psychological criticism. Authors include Plato, Aristotle, Hume, Kant, Hegel, T.S. Eliot, Bakhtin, Sontag, Barthes, Foucault, Derrida, Virginia Woolf, de Beauvoir, Showalter, Cixous, Gilbert and Gubar, Kolodny, Marx, Benjamin, and Freud.

353. (COML505, NELC434) Arabic Literature and Literary Theory. (A) Allen.

This course will explore different critical approaches to the interpretation and analysis of Arabic literature from pre-Islamic poetry to the modern novel and prose-poem. The course will draw on western and Arabic literary criticism to explore the role of critical theory not only in understanding and contextualizing literature but also in forming literary genres and attitudes. Among these approaches are: Meta-poetry and inter-Arts theory, Genre theory, Myth and Archetype, Poetics and Rhetoric, and Performance theory.

SM 355. (ENGL359, GRMN249, RUSS252) Topics in Modernism. (C) Staff.

This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year.

357. (ANTH226, FOLK229) Myth Society. (M) Ben-Amos.

In this course we will explore the mythologies of selected peoples in the Ancient Near East, Africa, Asia, and Native North and South America and examine how the gods function in the life and belief of each society. The study of mythological texts will be accompanied, as much as possible, by illustrative slides that will show the images of these deities in art and ritual.

SM 359. (CIMS359, COLL227, HEBR359, JWST359) Seminar Modern Hebrew Literature: LITERATURE & IDENTITY. (B) Arts & Letters Sector. All Classes. Gold. Prerequisite(s): HEBR 059 or HEBR 259 or permission of the instructor. This class is conducted in Hebrew and the texts are read in the original. The syllabus serves solely as an outline. The amount of material we cover depends on the pace of the class. Additionally, the packet contains significantly more material than will be studied in class to compensate for the difficulty of obtaining Hebrew texts in America. The content of this course changes from year to year and therefore students may take it for credit more than once. This is a topics course.

This course is for students who are interested in taking a literature course in Hebrew and are proficient in it. Grading is based primarily on students' literary understanding. There will be four 2-page written assignments over the course of the semester. We will discuss literary works that reflect Israelis' struggle with their national identity, from the patriotic 1948 generation for whom self and country overlapped to contemporary writers who ask what it means to be Israeli. While Yehuda Amichai's 1955 poem "I want to die in my bed" was a manifesto for individualism, the seemingly interminable Arab-Israeli conflict returned writers to the national, social, and political arenas starting in the 1980's. Readings include poems by Natan Alterman, Ami Gilboa, Meir Wieseltier and Roni Somek as well as fiction by Amos Oz, David Grossman, Sayed Kashua, Alona Kimhi and Etgar Keret. Texts, discussions and papers in Hebrew. The content of this course changes from year to year so students may take it for credit more than once.

360. (ROML390) Introduction to Literary Theory. (C) Staff.

In this course, we will examine a broad corpus of texts from a range of modern literary-theoretical schools, including formalism, structuralism, deconstruction, reader-response theory, Marxism, psychoanalysis, feminism, and post-colonialism. Through detailed readings of these works, we will address such issues as: the nature of language and its relationship to reality; the problems of identity and ideology; the notions of cultural authority and difference; and the politics of literature and "theory." Secondary readings will be drawn from British, German, and French/Francophone literary traditions. Taught in English.

SM 361. (ENGL360) Topics in the Novel. (M) Staff.

This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year.

L/R 372. (CIMS382, FREN382) Horror Cinema. (M) Met.

The purpose of this course is to provide an introduction to the history and main themes of the supernatural/horror film from a comparative perspective. Films considered will include: the German expressionists masterworks of the silent era, the Universal classics of the 30's and the low-budget horror films produced by Val Lewton in the 40's for RKO in the US, the 1950's color films of sex and violence by Hammer studios in England, Italian Gothic horror or giallo (Mario Brava) and French lyrical macabre (Georges Franju) in the 60's, and on to contemporary gore. In an effort to better understand how the horror film makes us confront our worst fears and our most secret desires alike, we will look at the genre's main iconic figures (Frankenstein, Dracula, Dr. Jekyll and Mr. Hyde, etc.) as well as issues of ethics, gender, sexuality, violence, spectatorship through a variety of critical lenses (psychoanalysis, socio-historical and cultural context, aesthetics,...).

SM 378. (AFRC293, ENGL293, GSWS226) Topics in Literature and Society. (M) Staff.

This course explores an aspect of Postcolonial literature intensively specific course topics vary from year to year.

SM 380. (JWST255, NELC250, NELC550, RELS224) The Bible in Translation. (C) Cranz.

Spring 2015: The Book of Isaiah spans over two centuries and documents one of the most turbulent periods in the histories of Judah and Israel. In this course, we read Isaiah's prophecies in the context of their historical settings and in consideration of their theological implications. We will align the biblical texts to ancient artifacts and inscriptions that were created during the time of the prophet. A close reading of the text will allow us to appreciate Isaiah's message of peace and salvation. We can then ask: how is Isaiah's message relevant for us today?

SM 382. (CIMS379, ITAL380) Italian Literature of the 20th Century. (M) Staff.

Topics vary, covering a range of genres and authors.

SM 383. (CLST396, ENGL394) Topics in Literary Theory. (M) Copeland. Benjamin Franklin Seminar.

This is a course on the history of literary theory, a survey of major debates about literature, poetics, and ideas about what literary texts should do, from ancient Greece to examples of modern European thought. The first half of the course will focus on early periods: Greek and Roman antiquity, especially Plato and Aristotle; the medieval period (including St. Augustine, Dante, and Boccaccio), and the early modern period (such as Philip Sidney and Giambattista Vico). We'll move into modern and 20th century by looking at the literary (or "art") theories of some major philosophers, artists, and poets Kant, Hegel, Shelley, Marx, the painter William Morris, Freud, and the critic Walter Benjamin. We'll end with a look at Foucault's work. The point of this course is to consider closely the Western European tradition which generated questions that are still with us, such as: what is the "aesthetic"; what is "imitation" or mimesis; how are we to know an author's intention; and under what circumstances should literary texts ever be censored.

SM 384. (CIMS387, ITAL384) Holocaust in Italian Literature and Film. (M) Staff. Holocaust in Italian Literature and Film.

SM 385. (EALC255, FOLK485, THAR485) Japanese Theatre. (A) Kano.

Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theatre in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage, design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. Requirements include short writing assignments, presentations, and one research paper. Reading knowledge of Japanese and/or previous course-work in literature/theatre will be helpful, but not required. The class will be conducted in English, with all English materials.

SM 390. (LALS396, SPAN390) Introduction to Spanish American Literature. (A) Staff. Prerequisite(s): SPAN 219.

Topics vary.

SM 391. (AFRC392, ARTH389, CIM392, ENGL392, SLAV392) Topics Film Studies. (M) Staff.

This topic course explores aspects of Cinema Studies intensively. Specific course topics vary from year to year. See the COML website at <<http://complit.upenn.edu/>> for a description of the current offerings.

SM 392. (ENGL393, SAST323) Topics in Postcolonial Lit. (M) Staff. Benjamin Franklin Seminar.

This course explores an aspect of Postcolonial literature intensively; specific course topics vary from year to year.

SM 395. (ENGL395) Topics in Cultural Studies. (M) Staff.

This course explores an aspect of cultural studies intensively; specific course topics vary from year to year.

SM 411. (ENGL234, HIST411) Introduction to Written Culture, 14th - 16th Centuries. (C) Staff.

This is a topics course. Please see the Comparative Literature website for each semester's topic: <http://ccat.sas.upenn.edu/Complit/>.

415. (AAMW435, ARTH435, NELC489) Medieval Islamic Art and Architecture. (C) Holod.

An introduction to the major architectural monuments and trends, as well as to the best-known objects of the medieval (seventh-to fourteenth-century) Islamic world. Attention will be paid to such themes as the continuity of late antique themes, architecture as symbol of community and power, the importance of textiles and primacy of writing. Suitable for students of literature, history, anthropology as well as art history.

416. (HIST416) European Intellectual History in the 18th Century. (B) Kors.

A survey based solely on primary sources of the main currents of eighteenth-century European thought: the "Enlightenment;" deism; natural religion; skepticism; evangelical revival; political reform; utilitarianism; naturalism; and materialism. The course will focus on works widely-read in the eighteenth century and of enduring historical significance. There are no prerequisites, and one of the goals of the course is to make eighteenth-century thought accessible in its context to the twenty-first century.

417. (AAMW531, ARTH436, NELC436, RELS440) Later Islamic Art and Architecture. (M) Holod.

Istanbul, Samarkand, Isfahan, Cairo and Delhi as major centers of art production in the fourteenth to seventeenth centuries. Attention will be given to urban and architectural achievement as well as to the key monuments of painting and metalwork. The visual environment of the "gunpowder empires" is discussed.

SM 418. (HIST418) Europe Intellectual History Since 1945. (B) Breckman.

This course concentrates on French intellectual history after 1945, with some excursions into Germany. We will explore changing conceptions of the intellectual, from Satre's concept of the 'engagement' to Foucault's idea of the 'specific intellectual'; the rise and fall of existentialism; structuralism and poststructuralism; and the debate over 'postmodernity.'

419. (HIST415) European Intellectual History of the Seventeenth Century. Kors.

A survey based solely on primary sources of the main currents of seventeenth-century European thought: the criticism of inherited systems and of the authority of the past; skepticism, rationalism; empiricism; and the rise of the new natural philosophy. We will study deep conceptual change as an historical phenomenon, examining works that were both profoundly influential in the seventeenth-century and that are of enduring historical significance. There are no prerequisites, and one of the goals of the course is to make seventeenth-century thought accessible in its context to the twenty-first century student.

498. Honors Thesis. (C)

499. Independent Study. (C)

Supervised study for Seniors.

SM 522. (ENGL525, GSWS524) Chaucer. (M) Wallace.

An advanced introduction to Chaucer's poetry and Chaucer criticism. Reading and discussion of the dream visions, Troilus and Criseyde, and selections from Canterbury Tales, from the viewpoint of Chaucer's development as a narrative artist.

SM 523. (GRMN526) The Trouble with Freud. (M) Weissberg. Reading and discussions in English.

For professionals in the field of mental care, Freud's work is often regarded as outmoded, if not problematic. Psychologists view his work as non-scientific, dependent

on theses that cannot be confirmed by experiments. In the realm of literary and cultural theory, however, Freud's work seems to have relevance still, and is cited often. How do we understand the gap between a medical/scientific reading of Freud's work, and a humanist one? Where do we locate Freud's relevance today? The graduate course will concentrate on Freud's descriptions of psychoanalytic theory and practice, as well as his writings on literature and culture.

SM 623. (SAST623) Literary History and Aesthetics in South Asia. Patel.

This seminar surveys the multiple components of literary culture in South Asia. Students will engage critically with selected studies of literary history and aesthetics from the past two millennia. In order to introduce students to specific literary cultures (classical, regional, contemporary) and to the scholarly practices that situate literature in broader contexts of culture and society, the course will focus both on the literary theories - especially from the nineteenth and twentieth centuries - that position South Asia's literary cultures within broader disciplinary frameworks that use literary documents to inform social, historical and cultural research projects. The aim is to open up contexts whereby students can develop their own research projects using literary sources.

SM 643. (FREN640) Studies in the Renaissance. (M) Staff.

Topics vary. Previous topics have included Rabelais and M. de Navarre, Montaigne, and Renaissance and Counter-Renaissance. Please see department's website for current course description:

SM 683. (ARTH783, ENGL573, SLAV683) Topics in Comparative Literature and Theory. (M) Platt.

Seminars on modernism are usually taught within a single geographic area, cultural tradition, period, language, medium, and disciplinary framework. Yet modernism was a border-crossing phenomenon, and it may productively be studied as such. A recent turn toward global and transnational paradigms is one of the few traits shared by modernist studies across multiple disciplines. "Modernisms Across Borders" one of the topics studied, will take advantage of this commonality among diverse sites of inquiry, treating modernism as a transborder phenomenon while also probing the limitations and still-latent potential of such an approach.

SM 694. (SPAN694) Spanish and Latin American Cinema. Staff.

Topics vary from year to year.

SM 696. (AFST696, FREN696) Postcolonial Theory in Francophone Contexts. (M) Moudileno.

This seminar will introduce students to key texts and influential figures coming from, focusing on, or relevant to Francophone postcolonial contexts. Following a brief review of Anglophone postcolonial criticism, readings for the course will fall under three categories: Authors from the 1940s to present who have focused exclusively on (post)colonial issues pertaining to Africa, the Caribbean and/or postcolonial France; contemporary European, African and North American literary critics; humanities scholars whose work would not necessarily be labeled "postcolonial" but is nevertheless relevant to postcolonial criticism.

SM 734. (ENGL734) Renaissance Drama. (M) Bushnell.

This is a topics course. For Spring 2015, the topic is Genre and Performative Media.

SM 786. (ARTH786, ITAL685) Topics in 20th Century Art. (M)

Graduate Courses

SM 501. (CLST511, ENGL600, GRMN534, SLAV500) Basic Issues in the History of Literary Theory. (A) Staff.

Over the last three decades, the fields of literary and cultural studies have been reconfigured by a variety of theoretical and methodological developments. Bracing and often confrontational dialogues between theoretical and political positions as varied as Deconstruction, New Historicism, Cultural Materialism, Feminism, Queer Theory, Minority Discourse Theory, Colonial and Post-colonial Studies and Cultural Studies have, in particular, altered disciplinary agendas and intellectual priorities for students embarking on the /professional /study of literature. In this course, we will study key texts, statements and debates that define these issues, and will work towards a broad knowledge of the complex rewriting of the project of literary studies in process today. The reading list will keep in mind the Examination List in Comparative Literature we will not work towards complete coverage but will ask how crucial contemporary theorists engage with the longer history and institutional practices of literary criticism.

SM 502. (ENGL501, GRMN510, HIST590) Introduction to Old English Language and Literature. (M) Staff.

This is a topics course. If the topic is "The Diary," the following description applies.

This is an accelerated study of the basic language of Anglo-Saxon England, together with a critical reading of a variety of texts, both prose and poetry.

SM 503. (ITAL501) Italian Literary Theory. (M) Staff. This is a topics course. The topic may be "History and Language of Italy".

SM 504. (CIMS505, ENGL505) Electronic Literary Studies Proseminar. (M) Staff.

This course is designed to introduce advanced undergraduate and graduate students to the range of new opportunities for literary research afforded by recent technological innovation.

505. (COML353, NELC434) Arabic Literature and Literary Theory. (A) Fakhreddine.

This course will explore different critical approaches to the interpretation and analysis of Arabic literature from pre-Islamic poetry to the modern novel and prose-poem. The course will draw on western and Arabic literary criticism to explore the role of critical theory not only in understanding and contextualizing literature but also in forming literary genres and attitudes. Among these approaches are: Meta-poetry and inter-Arts theory, Genre theory, Myth and Archetype, Poetics and Rhetoric, and Performance theory.

SM 506. (CIMS500, ENGL461, ENGL492) Topics in Twentieth-Century Literature. (M) Staff.

This course treats some aspect of literary and cultural politics in the 20th-Century with emphasis varying by instructor.

SM 507. (SAST480) Reading Sanskrit Literature. (M) Patel.

SM 508. (ITAL562) World Views in Collision. (M) Staff.

The impact of paradigm shifts on Italian and European culture.

SM 509. (ENGL591, GRMN509, JWST509, YDSH509) Modernist Jewish Poetry. (C) Hellerstein.

The premise of this course is to present Jewish modernism as an international phenomenon of the early 20th century.

510. (ARTH505, CIMS502) Medieval Education: History, Practices, Texts. (M) Copeland.

This course will cover various important aspects of education and intellectual culture from late antiquity (c. 400 A.D.) to the later Middle Ages (c. 1400 A.D.) across Europe. We will look especially at how the arts of language (grammar, rhetoric, dialectic) were formalized and "packaged" in late antique/early medieval encyclopedias (e.g., Martianus Capella's "Marriage of Mercury and Philology," Cassiodorus' "Institutes of Divine and Secular Learning," Boethius and Augustine on rhetoric, Donatus and Priscian on grammar, Boethius on dialectic, Isidore of Seville on all the sciences), and at how later theorists and systematizers recombined and reconfigured knowledge systems for new uses (especially monastic education, including notably Hugh of St. Victor's "Didascalicon"). We will also look at how the earlier and later Middle Ages differentiated between "primary" and "advanced" education, how children and childhood are represented in educational discourse, how women participate in (or are figured in) intellectual discourse (Eloise, Hildegard of Bingen, Christine de Pizan), how universities changed ideas of intellectual formation, and how vernacular learning in the later Middle Ages added yet another dimension to the representation of learning.

SM 520. (ITAL520) Medieval "Autobiography": Augustine to Petrarch. (M) Brownlee.

The development of a new authorial subject in Medieval and Early Modern first-person narrative.

SM 521. (GSWS537, ITAL537) Boccaccio. (M) Brownlee.

Boccaccio's life and work in the context of Italian and European culture and society.

SM 524. (ITAL535) Petrarch. (M) Brownlee.

This course will study Petrarch's lyric poetry with reference to its Italian roots (Sicilian school, dolce stil nuovo) and European posterity: Renaissance and Baroque Petrarchism as well as impingement on the Romantics.

SM 525. (GSWS526) Theories: Gender, and Sexuality Studies. (M) Staff.

Theories in Gender and Sexuality: Objects, Ideas, Institutions foregrounds new works in feminist thinking which circumvent and resist stale modes of teaching, in learning and knowing difference and "the woman

question." Our aim is to interrogate the normative directionality of feminist "waves" and additive and intersectional models of suturing gender and sexuality to minoritarian politics. We will conceptualize feminism as relational to studies of affect, object oriented ontology animality, feminist science, and aesthetics.

SM 526. (ENGL705, HIST526, SLAV526) In Defiance of Babel: The Quest for a Universal Language. (M) Verkholantsev.

This is a course in intellectual history. It explores the historical trajectory, from antiquity to the present day, of the idea that there once was, and again could be, a universal and perfect language to explain and communicate the essence of human experience. The idea that the language spoken in the Garden of Eden was a language which perfectly expressed the essence of all possible objects and concepts has occupied the minds of scholars for more than two millennia. In defiance of the myth of the Tower of Babel and the confusion of languages, they strived to overcome divine punishment and discover the path back to harmonious existence.

SM 527. (HEBR583, HIST523, JWST523, RELS523) Studies in Medieval Jewish Culture. (A) Fishman. Prerequisite(s): Unless otherwise noted, reading knowledge of Hebrew is required.

According to reigning historiography, the Jewish subcultures of Ashkenaz and Sefarad developed differently because the former was the cultural heir of ancient Palestinian Jewry, while the latter was the heir of Babylonian Jewry. Yet scholarship of the last several decades has shown the inadequacy of this claim. This graduate level course will reconstruct some of the underlying problems with this claim and suggest that examination of developments in the broader Roman, Christian and Islamic societies offer alternate ways of accounting for the emergence of these Jewish subcultures in the Middle Ages. Topics to be explored include cultural-geographic patterns following the collapse of the Roman Empire; divergent approaches to Islamic law under the abbasid and Umayyad caliphates; genres of legal composition in different parts of the Islamic world, and the status of aggadah (i.e., non-legal rabbinic tradition) in medieval Ashkenaz and Sephardic traditions. Undergraduates may attend with the instructor's permission.

SM 528. (RUSS528) Late Soviet to Non-Soviet Literature and Culture. (M) Platt & Djagalov.

The aims of this course are threefold: to introduce students to some signature literary and cultural texts from roughly the post-Stalin era to the present, to equip them with relevant theoretical approaches and concerns, and finally, to offer a space where they can develop their own research projects. A major theme will be the relations between "Russian" literature and history, in which literature is not only a mimesis of the historical process but often an active agent. Throughout, we will be particularly attentive to the periphery of literature. In the first place, this means an expanded geography, the inclusion of non-Russian Soviet and emigre writers before and after 1991, as well as an effort to theorize their structural position. Secondly, we will adopt the late Formalists' understanding of literary periphery as the genres, cultural forms, institutions, and phenomena that abutted the literary field and affected its processes. Depending on student interest, our attention to these objects of inquiry could be directed toward bardic song and the later lyric-centric Russian rock, samizdat and literary internet, thick journals and literary prizes, Soviet-era dissidence and today's protest culture.

SM 529. (AFRC526, ARTH504, CIMS530) Black Cinema. (M) Staff.

This course treats some important aspect of African-American literature and culture. Some recent versions of the course have focused on the emergence of African-American women writers, on the relation between African-American literature and cultural studies, and on the Harlem Renaissance.

SM 531. (RUSS541) Russian Awakenings: Western Mysticism and 19th-Century Russian Culture. (M) Vinitsky. All readings will be available in English, although reading in the original is encouraged. Discussion will be in English.

This course will consider the role of western mystical legacy (from Jakob Bohme to Madame Blavatsky) in 19th-Century Russian literature and culture. From the late 18th to early 20th century, Russia witnessed several surges (or awakenings) of mysticism. As a rule, these mystical waves came from the West (usually through German intermediacy) and tended to coincide with critical historical junctures, such as the moral crisis at the end of the reign of Catherine the Great (the rise of Russian Freemasonry), the Russian victory over Napoleon and the

establishment of a new European order (the emergence of Russian mystical/political circles of the 1810s), a deep ideological schism in the Russian intelligentsia in the 1860s (the rise of Russian spiritualism), and finally, the revolutionary period in the first decade of the 20th century.

SM 533. (ITAL531) Dante's Divine Comedy I. (M) Brownlee, K.

"Divine Comedy" in the context of Dante's medieval worldview and culture.

SM 535. (COML226, SAST227, SAST527) The Hindi Nation and its Fragments. (K) Williams.

This course will trace the formation and contestation of a Hindi national public during the colonial and post-colonial periods, utilizing the post-colonial critical thought of writers in English like Partha Chatterjee, Gayatri Spivak, and Aijaz Ahmed, but also of critics writing in Hindi like Namvar Singh, Ashok Vajpevi, Rajendra Yadav, etc. Attention will be given to this manner in which the contours and character of this imagined community have been debated in the context of different literary, social, and political movements, with particular emphases given to aspects of gender, caste, and regional identity. Central to class discussions will be the question of what constitutes a language literature, and consequently what relation those concepts can have to nation in a multilingual state such as India. Readings will be in translation.

SM 536. (GRMN535) Goethe's Novels. (M) MacLeod.

With each of his major novels, Goethe intervened decisively and provocatively in the genre and wider culture. This seminar will analyze three of Goethe's novels spanning his career: the epistolary novel *The Sorrows of Young Werther*; the novel of adultery *Elective Affinities*, and the "archival" novel *Wilhelm Meisters Journeyman Years*. Particular attention will be paid to the ways in which these novels address questions of modernization - technology and secularization, to name only two - through the lens of individuals who understand themselves in relation to artistic media. We will also consider seminal scholarship on the novels (e.g. Benjamin, Lukács) in addition to recent critical approaches.

SM 537. (ARTH584, GRMN541) Topics in Cultural History. (M) Staff.

An introduction to the practice and theory of epic in the early modern period. Specific texts vary with instructor.

SM 539. (ENGL588, GRMN540) Memory. (M) Weissberg.

In recent years, studies of memory (both individual and cultural) have rivaled those of history, and have produced alternative narratives of events. At the same time, research has also focused on the rupture of narrative, the inability to find appropriate forms of telling, and the experience of a loss of words. The notion of trauma (Greek for "wound") may stand for such a rupture. Many kinds of narratives, most prominently the recollections of Holocaust survivors, are instances in which memories are invoked not only to come to terms with traumatic events, but also to inscribe trauma in various ways. In this seminar, we will read theoretical work on memory and trauma, discuss their implication for the study of literature, art, and culture, read select examples from Holocaust survivors' autobiographies (i.e. Primo Levi, EliWiesel), and discuss visual art (i.e. Boltanski, Kiefer) and film (i.e. Resnais, Lanzmann, Spielberg).

SM 540. (ITAL540) Topics in Renaissance Culture. (M) Staff.

Renaissance Italian society, art, intellectual and political history.

SM 543. (ENGL535) Shakespeare and His Contemporaries. (M) Staff.

Readings in the work of Shakespeare and other writers of the period. Specific texts vary with instructor.

SM 546. (ENGL546, FREN537, GSWS536, HIST537) The Novel and Marriage. (M) DeJean.

Historians have argued that early novels helped shape public opinion on many controversial issues. And no subject was more often featured in novels than marriage. In the course of the 18th and the 19th centuries, at a time when marriage as an institution was being radically redefined, almost all the best known novels explored happy as well as unhappy unions, individuals who decided not to marry as well as those whose lives were destroyed by the institution. They showcased marriage in other words in ways certain to provoke debate. We will both survey the development of the modern novel from the late 17th to the early 20th century and study the treatment of marriage in some of the greatest novels of all time. We will begin with novels from the French and English traditions, the national literatures in which the genre first took shape, in particular Laclos' DANGEROUS LIAISONS, Austen's PRIDE AND PREJUDICE, Bronte's JANE EYRE, Flaubert's MADAME BOVERY. We will then turn

to works from the other European traditions such as Goethe's ELECTIVE AFFINITIES and Tolstoy's ANNA KARENINA. We will begin the course by discussing the novel often referred to as the first modern novel, THE PRINCESS DE CLEVES. This was also the first novel centered on an exploration of questions central to the debate about marriage for over two centuries.

SM 548. (ITAL539) Cracking the Code: Numerology and Literature. (B) Staff.

In English. This course reconstructs traditions of Western number symbolism from antiquity (Plato, the Pythagoreans) to the early modern period with readings both in encyclopedic treatises on Arithmetic (Macrobius, Martianus Capella, Rhabanus Maurus) and in literary texts that are numerical compositions (Augustine's Confessions, Petrarch's epistle on the ascent of Mt. Ventoux, Dante's Vita Nuova and Commedia, Boccaccio's Diana's Hunt, the Old French Vie de St. Alexis, and Umberto Eco's The Name of the Rose). Discussion will focus on numerology as it relates to the medieval esthetic of order, the literary text as microcosmic counterpart to God's macrocosm, veiled meaning, and "difficult" poetics. We shall also consider the end of the tradition and what changes in science and culture brought about the disappearance of number symbolism in literature, except for a few moderns (e. g. Thomas Mann).

SM 550. (RUSS549) Stalinist Culture. (M) Platt.

This course will explore the cultural context in which the so-called Romantic Movement prospered, and will pay special attention to the relationship between the most notorious popular genres of the period (Gothic fiction and drama) and the poetic production of both canonical and emerging poets.

SM 551. (ENGL551) British Romanticism. (M) Staff.

This course attempts a concentrated survey of the early years -- primarily the 1790's -- of the English Romantic period. Specific texts vary with instructor, but usually include works from Blake, Coleridge, and Wordsworth.

SM 552. (ARTH550, CIMS550, GRMN550) Topics in Film. (K) Richter.

From the early 20th century, German cinema has played a key role in the history of film. Seminar topics may include: Weimar cinema, film in the Nazi period,

East German film, the New German cinema, and feminist film.

SM 554. (ENGL553, GSWS553, RELS531) British Women Writers. (M) Staff.

A study of British women writers, often focusing on the women authors who came into prominence between 1775 and 1825.

SM 556. (JWST356, JWST555, NELC356, RELS418) Ancient Interpretation of the Bible and Contemporary Literary Theory. (C) Staff.

Christianity and Judaism are often called "Biblical religions" because they are believed to be founded upon the Bible. But the truth of the matter is that it was less the Bible itself than the particular ways in which the Bible was read and interpreted by Christians and Jews that shaped the development of these two religions and that also marked the difference between them. So, too, ancient Biblical interpretation -- Jewish and Christian -- laid the groundwork for and developed virtually all the techniques and methods that have dominated literary criticism and hermeneutics (the science of interpretation) since then.

SM 559. (GRMN560) Topics in Philosophy and Literature. (B) Staff.

This a topics course. Please see the Comparative Literature website for the topic: <http://ccat.sas.upenn.edu/Complit/>.

SM 561. (FREN560) Studies in the 18th Century. (M) DeJean. This is a topics course.

SM 564. (ENGL564) Modern British Literature. (M) Staff.

An introduction to British Literary Modernism. Specific emphasis will depend on instructor.

SM 570. (ARTH573, CIMS515, ENGL573, FREN573, GRMN573) Topics in Criticism and Theory. (M) Staff.

This course covers topics in literary criticism and theory. It's specific emphasis varying with instructor.

SM 573. (AFRC570, ENGL570) Topics in Afro-American Literature. (M) Staff.

This course treats some important aspect of African-American literature and culture. Some recent versions of the course have focused on the emergence of African-American women writers, on the relation between African-American literature and

cultural studies, and on the Harlem Renaissance.

SM 575. (AFRC572, CIMS572, ENGL572) Topics in African Literature. (M) Barnard.

This course is based on a selection of representative texts written in English, as well as a few texts in English translation. It involves, a study of themes relating to social change and the persistence of cultural traditions, followed by an attempt at sketching the emergence of literary tradition by identifying some of the formal conventions established writers in their use of old forms and experiments with new.

SM 577. (ENGL589) 20th Century Poetry. (M) Bernstein.

A study of the major figures of American poetry of the early 20th-century. T.S. Eliot, Ezra Pound, William Carlos Williams, Wallace Stevens and Robert Frost are usually included.

SM 578. (ENGL593) Topics in Literature and Society. (M) Staff.

This is a topics course which varies year to year.

SM 579. (SLAV575) Slavic Literary Theory in Western Context. (M)

Steiner, P.

This course will compare selected theoretical concepts advanced by Russian Formalists, Prague Structuralists, and the Bakhtin group (e.g., defamiliarization, aesthetic sign, dialogue) with similar or analogous notions drawn from Western intellectual tradition.

SM 580. (ENGL574, HIST574) Introduction to Bibliography. (H)

Staff.

This course offers an introduction to the principles of descriptive and analytic bibliography and textual editing. The history of authorship, manuscript production, printing, publishing, and reading will be addressed as they inform an understanding of how a particular text came to be the way it is. Diverse theories of editing will be studied and put into practice with short passages. The course is generally suitable for students working in any historical period, but particular emphases specified in the current offerings on the English website. www.english.upenn.edu

SM 581. (ARTH590, CIMS592, ENGL592) The Essay Film. (M) Staff.

SM 582. (ARTH560, GRMN580, PHIL480) Topics in Aesthetics. (A)

Staff. This is a topics course.

Course description for Spring 2015: "Nietzsche" This seminar will offer a comprehensive and in-depth look at one of modernity's most provocative and controversial thinkers. Proceeding chronologically, we will examine all of Nietzsche's major writings: from the early essays through the hopefulness of the 'free spirit' period, from the calculating genealogies to the inchoate and chaotic fragments of the posthumously published Will of Power, from the profoundly strange and terrifying Zarathustra to the fevered final works. Throughout the semester, students will be invited to consider Nietzsche's philosophical inheritances (from, for instance, Kant, Hegel, and Schopenhauer) and influences (on Heidegger, Foucault, Deleuze, Derrida and many others). Discussions in English, but students are invited to read texts in the original where appropriate.

SM 584. (GRMN581) Topics in Jewish-German Culture. (M) Staff.

Reading and discussion course on selected topics in Jewish history. The instructors are visiting scholars at the Center for Advanced Judaic Studies.

SM 586. (ARTH586) Topics in Twentieth Century Art. (C) Poggi.

This seminar will examine the ideas of a number of influential theorists in a variety of disciplines who have contributed to the ways in which we understand and evaluate art. A tentative and flexible list includes: Kant, Denis, Fry, Greenberg, Schapiro, de Bord, Derrida, Lacan, Kristeva, Baudrillard.

SM 587. (ITAL588) Cinema and the Sister Arts. (M) Staff.

Cinema as a pan-generic system constructed of other art forms, including fiction, theater, painting, photography, music and dance.

SM 589. (FREN582) Fantastic Literatures in 19th and 20th Centuries. (M) Staff.

This course will explore fantasy and the fantastic in short tales of 19th- and 20th-century French literature. A variety of approaches -- thematic, psychoanalytic, cultural, narratological -- will be used in an attempt to test their viability and define the subversive force of a literary mode that contributes to shedding light on the dark side of the human psyche by interrogating the "real," making visible the unseen and articulating the unsaid. Such broad

categories as distortions of space and time, reason and madness, order and disorder, sexual transgressions, self and other will be considered. Readings will include "recits fantastiques" by Merime, Gautier, Nerval, Maupassant, Breton, Mandiargues, Jean Ray and others.

SM 590. (ENGL590, GRMN585, GSWS589, LALS590) Recent Issues in Critical Theory. (M) Staff.

This course is a critical exploration of recent literary and cultural theory, usually focusing on one particular movement or school, such as phenomenology, psychoanalysis, the Frankfurt School, or deconstruction.

SM 592. (CIMS591, CIMS592, ENGL591, ENGL592) Topics in Contemporary Theory. (M) Staff. This is a topics course.

SM 593. (ITAL581) Modern and Contemporary Italian Culture. (M) Staff.

This is a topics course. One topic may be "Futurism, Classicism, Fascism" or "Philology and History."

SM 594. (ARTH594, ENGL797) Topics in Contemporary Art. (M) Silverman.

Topics vary. Please see the Comparative Literature and Literary Theory website at <http://ccat.sas.upenn.edu/Complit/>.

SM 596. (FREN590) Introduction to Francophone Studies. (M) Staff.

An introduction to major literary movements and authors from five areas of Francophonie: the Maghreb, West Africa, Central Africa, the Caribbean and Quebec.

SM 597. (ENGL597) Modern Drama. (M) Staff.

This course will survey several basic approaches to analyzing dramatic literature and the theatre. The dramatic event will be broken into each of its Aristotelian components for separate attention and analysis: Action (plot), Character, Language, Thought, Music and Spectacle. Several approaches to analysing the dramatic text will be studied: phenomenological, social-psychological, semiotic, and others.

SM 600. (LATN602) Graduate Latin Poetry. (M) Farrell.

Spring 2013: Exploration of selected themes in Vergil's works, with an emphasis on aspects that have been particularly important in recent research. Some of these include intertextuality within the epic tradition and between epic and tragedy;

philosophical and particularly ethical approaches to literature; discourse theory as it relates to expressions of dissent.

SM 601. (CLST618, ENGL524) Topics Medieval Studies. (C) Copeland.

An interdisciplinary course, it will utilize literary practices to "read" the ways specific texts produce sexuality at the same time as it will examine the relation between discourses and the material and political worlds in which those discourses are spoken. We will examine the role sexuality plays in the languages of Imperialism and in the sexualization of political rhetoric. The course will explore theoretical approaches to sexuality (and its discursive construction) proposed by Freud, Foucault, Sander Gilman, Gayle Rubin, Teresa de Lauretis, Mary Douglas, and examine a broad range of "primary materials" from eighteenth-century novels and pornography to nineteenth-century sexology to current feminist and political debates.

SM 602. (ITAL602) Tools of the Trade. (M) Staff.

Theoretical and practical aspects of academic research

SM 605. (ANTH605, FOLK605, MUSC605) Anthropology of Music. (C) Staff.

Topics may include the intellectual history of ethnomusicology, current readings in ethnomusicology, a consideration of theoretical principles based upon the reading and interpretation of selected monographs, and area studies.

SM 606. (ENGL705, GREK602) Ancient Literary Theory. (M) Staff.

SM 607. (ENGL776) Contemporary Drama. (M) Staff. This is a topics course.

Sometimes taught as a survey of modern and contemporary drama, this course can also focus on a particular issue such as the politics of Western theatre, gender and performativity, or postmodernity in the dramatic arts.

SM 618. (RUSS618) Cultural History of Medieval Rus' (800-1700). (M) Verkholantsev.

Cultural History of Medieval Rus (800-1700) offers an overview of the literary, cultural, and political history of Medieval Rus' from its origins up to the Petrine reign (early 18th century), the period that laid the foundation of the Russian Empire.

SM 620. (ENGL748, FREN660) Semester in 18th Century Literature. (A) Staff.

This course varies in its emphases, but in recent years has explored the theory of narrative both from the point of view of eighteenth-century novelists and thinkers as well as from the perspective of contemporary theory. Specific attention is paid to issues of class, gender, and ideology.

SM 621. (HIST620) Topics in European History. (M) Staff.

Reading and Discussion course on selected topics in European History.

SM 622. (ENGL774) Postmodernism. (M) Staff.

An advanced seminar on postmodernist culture. Recently offered as a study of relationship between poetry and theory in contemporary culture, with readings in poststructuralist, feminist, marxist, and postcolonial theory and in poets of the Black Mountain and Language groups.

SM 628. (SPAN630) Studies in Spanish Middle Ages. (M) Staff.

This is a topics course. Topics will vary from year to year.

SM 630. (FREN630, ITAL630) Introduction to Medieval Literature. (C) Staff. This is a topics course.

SM 631. (CLST630, ENGL715, FREN536) Medieval Allegory. (M) Copeland.

For the Middle Ages, allegory represents a nexus of literary history and textual theory, hermeneutics and theology, intellectual history and education, and theories of history and the transmission of culture.

Through medieval allegorical practices we see some of the deepest continuities with ancient hermeneutical thought and also some of the most radical ruptures with the ancient past. Allegory, in other words, was as crucial and charged a term for medieval culture as for contemporary thought.

Allegory is at once a trope, that is, a specific and delimited form, and an all-encompassing interpretive system. It will be the purpose of this seminar to try to articulate the connections between that particular form and that general system by examining medieval allegory in its various literary and philosophical contexts. Our focus will be the 12th through the early 15th centuries in both the vernacular and Latin, with attention to late antique philosophical and theological foundations. We will also incorporate readings from

various modern perspective on the history and theory of allegory.

SM 632. (ITAL631) Dante's Commedia. (C) Brownlee.

A close reading of the Inferno, Purgatorio and the Paradiso which focuses on a series of interrelated problems raised by the poem: authority, representation, history, politics, and language. Particular attention will be given to Dante's use of Classical and Christian model texts: Ovid's Metamorphoses, Virgil's Aeneid, and the Bible. Dante's rewritings of model authors will also be studied in the context of the medieval Italian and Provençal love lyric.

SM 634. (GRMN672) Reading Modernity. (J) Staff.

In this course we will examine Modernism and the avant-garde as concepts in literature, theater, and criticism. Both terms in the seminar title will be significant to our work, as we ask not only how to define and debate "modernity" today, but also how to understand various notions of "reading" and cultural analysis that emerge during the period and live on in various ways today. In addition, we will take account of important technological, social, and economic developments marking modernity, focusing our attention on the ways in which they intersect and interact with cultural production, cultural politics, and perception itself. Readings will include key texts by representative authors, including Benjamin, Kafka, Barthes, Kracauer, Brecht, Adorno, Baudelaire, Eliot, Woolf, and others. The final section of the course is concerned with contemporary debates surrounding Modernism's relation to Fascism and the juxtaposition of Modernism and Postmodernism.

SM 637. (ENGL735) Shakespeare. (M) Staff.

An advanced seminar, usually focused on Shakespeare, treating the literature and culture of the late 16th- and early 17th-centuries.

SM 638. (FREN638, MUSC710) Topics: Medieval Culture. (M) Brownlee. Topics will vary each term.

SM 640. (SPAN640) Studies in the Spanish Renaissance. (M) Staff.

Topics of discussion will vary from semester to semester. Selections from the works of Santillana, Mena, Rojas, Garcilaso, Juan and Alfonso del Valdes, Leon Hebreo, Juan de la Cruz, Luis de Leon, and the "preceptistas." Please see

theComparative Literature website for the current topic, <http://ccat.sas.upenn.edu>

SM 641. (ITAL640) Studies in Italian Renaissance. (M) Staff.

Renaissance Italian society, art, intellectual and political history. Advanced level course.

SM 642. (GRMN642) Drama of the Twentieth Century. (M) Staff.

Based on a discussion of the relationship of drama (text) and theater (performance), the course examines the development of realistic and antirealistic currents in modern German drama. From Wedekind and Expressionism to Piscator's political theater, Brecht's epic theater and beyond (Horvath, Fleisser, Frisch, Duerrenmatt, Handke).

SM 651. (FREN650, GRMN651, HIST651) Studies in 17th Century. (C) Staff.

Topics of discussion will vary from semester to semester. One possible topic is "The Royal Machine: Louis XIV and the Versailles Era." We will examine certain key texts of what is known as the Golden Age of French literature in tandem with a number of recent theoretical texts that could be described as historical. Our goal will be to explore the basis of "the new historicism," a term that is designed to cover a variety of critical systems that try to account for the historical specificity and referentiality of literary texts.

SM 654. (HIST656, SLAV655) History, Memory, Trauma. (M) Platt.

This course will be devoted to study of the theory and practice of representation of the past in major European traditions during the modern era, with special emphasis on three topics of broad concern: revolution, genocide, and national becoming. The object of inquiry will be construed broadly, to include all manner of historiographic, artistic, filmic, literary and rhetorical representation of the past. Each of the three segments of the course will begin with examination of important theoretical readings in conjunction with case studies in major European traditions that have been among the central foci of this theoretical work French Revolutionary history, Holocaust, English nationalism). Next we will add analogous Russian cases to the picture (Russian Revolution, Gulag memory, Ivan the Terrible and Peter the Great as national myths). Finally, at the conclusion of each segment students will bring theoretical tools to bear on the national traditions and contexts relevant to their own work. Our readings in the theory

and philosophy of historiography will include works by: Anderson, Caruth, Guha, Hegel, LaCapra, Putnam, Ricoeur, White and others.

SM 662. (FOLK629, NELC683, RELS605) Theories of Myth. (M) Ben-Amos.

Theories of myth are the center of modern and post-modern, structural and post-structural thought. Myth has served as a vehicle and a metaphor for the formulation of a broad range of modern theories. In this course we will examine the theoretical foundations of these approaches to myth focusing on early thinkers such as Vico, and concluding with modern 20th century scholars in several disciplines that make myth the central idea of their studies.

SM 669. (FREN670) Nineteenth Century Studies. (M) Staff. This is a topics course.

Topics may include "Modernity and Early Nineteenth-Century French Culture," "Lit and Culture in fin-de-Siecle."

SM 670. (ARTH670, GRMN670) German Literary Criticism. (M) Staff.

Topics will vary. In the past, courses have concentrated on Walter Benjamin's work, and "The Frankfurt School and After."

SM 674. (ARTH674, GRMN674) Topics in Aesthetic Theory. (K) Weissberg/MacLeod.

This is a topics course. The topics may be "Benjamin and Arendt," "Walter Benjamin," "Kant to Frankfurt School," "Literature and Visuality," or "Imagination and Ideology," or "Modernity Style/Fashion."

SM 676. (GRMN676, GSWS676) Topics in Feminist Theory. (I) Weissberg.

The seminar will provide a survey of recent feminist theories, and a discussion of literary texts focusing on issues of gender, race, and class. The reading list will include essays by French, English, and American theorists as well as novels by Bachmann, Wolf, and Jelinek.

SM 681. (PHIL680) History of Aesthetics. (M) staff.

This course will examine the transformation of aesthetic theory in the post-Kantian period, with particular attention to changes in the concept of the aesthetic itself and in conceptions of the place of the discipline of aesthetics in philosophy as a whole.

SM 682. (ENGL571, SPAN682) Seminar on Literary Theory. (M) Staff.

Topics vary from year to year.

SM 685. (EALC755) Literary Criticism and Theory in Japanese Literature. (M) Kano.

While the focus of this seminar will shift from year to year, the aim is to enable students to gain 1) a basic understanding of various theoretical approaches to literature, 2) familiarity with the histories and conventions of criticism, literary and otherwise, in Japan; 3) a few theoretical tools to think in complex ways about some of the most interesting and controversial issues of today, such as nationalism, imperialism, colonialism, postmodernism, and feminism, with particular focus on Japan's position in the world. The course is primarily intended for graduate students but is also open to advanced undergraduates with permission of the instructor. The course is taught in English, and all of the readings will be available in English translation. An optional discussion section may be arranged for those students who are able and willing to read and discuss materials in Japanese.

This course will be taught in English and all texts will be read in English translation.

SM 687. (ENGL539, SPAN687) The Spanish Connection. (M) Staff.

Topics vary from year to year.

L/R 688. (ARTH687) Twentieth Century Art: 1945-Now. (C) Poggi/Silverman.

Many people experience the art of our time as bewildering, shocking, too ordinary (my kid could do that), too intellectual (elitist), or simply not as art. Yet what makes this art engaging is that it raises the question of what art is or can be, employs a range of new materials and technologies, and addresses previously excluded audiences. It invades non-art spaces, blurs the boundaries between text and image, document and performance, asks questions about institutional frames (the museum, gallery, and art journal), and generates new forms of criticism. Much of the "canon" of what counts as important is still in flux, especially for the last twenty years. And the stage is no longer centered only on the United States and Europe, but is becoming increasingly global. The course will introduce students to the major movements and artists of the post-war period, with emphasis on social and historical context, critical debates, new media, and the changing role of the spectator/participant.

SM 691. (LALS690, SPAN690) Studies in Latin American Literature. (M) Staff. This is a topics course. One topic may be "Literature and the Arts in the Age of Globalization."

SM 692. (SPAN692) Colonial Literature of Spanish American. (M) Staff.

Study of the historical context of the colonial period in Spanish America and of major works in prose and poetry.

SM 697. (SPAN697) Studies in Latin American Culture. (M) Staff.

This is a topics course. The topic will vary each semester.

SM 700. (ENGL775) African Literature and Society. (C) Staff.

An advanced seminar in anglophone African literature, possibly including a few works in translation.

SM 708. (AFRC708, ENGL775, FREN700) Cultural and Literary Theory of Africa and the African Diaspora. (M) Staff.

This course introduces students to the theoretical strategies underlying the construction of coherent communities and systems of representation and how those strategies influence the uses of expressive culture over time.

SM 714. (CLST610, ENGL715, FREN635) Medieval Literature. (M) Staff.

This is a topics course. The topic may be "Women and Writing, 1220-1689," "Denationalizing the English Middle Ages," or "Anglo-French Literatures." or "Gloss and Commentary."

SM 715. (FOLK715, GSWS705, MUSC705) Seminar in Ethnomusicology. (A) Muller.

SM 720. (MUSC720) Studies in Renaissance Music. (C) Staff.

Seminar on selected topics in the music of the Renaissance.

SM 725. (ENGL725) Topics in Chaucer. (M) Wallace.

Please see the Comparative Literature and Literary Theory website for topics: <http://ccat.sas.upenn.edu/Complit/>.

SM 730. (ENGL730) Topics in 16th-Century History and Culture. (M) Staff.

This is an advanced course treating topics in 16th Century history and culture particular emphasis varying with instructor.

SM 736. (ENGL736) Renaissance Studies. (M) Staff. This is a topics course.

This is an advanced topics course treating some important issues in contemporary Renaissance studies.

SM 750. (ENGL750) Romanticism in Italy. (M) Staff.

This course is an advanced seminar on writings of the Romantic period, not restricted to English Romanticism.

SM 755. (ENGL754) Victorian Literature. (M) Staff.

An advanced seminar in Victorian Fiction.

SM 761. (ENGL761) British Modernism. (M) Staff.

This course treats one or more of the strains of British modernism in fiction, poetry, or the arts.

SM 766. (ENGL765) Topics in 20th Century English Literature. (M) Staff.

This is a topics course. If the title is "Modernism and the Philosophy of Egoism," the following description applies.

Topics vary from year to year.

SM 767. (ENGL773) Modernism. (M) Staff.

An interdisciplinary and international examination of modernism, usually treating European as well as British and American modernists. The topics may be "The Hard and Soft in Modernism," "The Technical Sublime," "Global Literature and Theory," or "Effects of Modernity."

SM 769. (ENGL769, GSWS769) Feminist Theory. (M) Staff.

Specific topic varies. The seminar will bring together the study of early modern English literature and culture with histories and theories of gender, sexuality and race. Contact with 'the East' (Turkey, the Moluccas, North Africa and India) and the West (the Americas and the Caribbean) reshaped attitudes to identity and desire. How does this history allow us to understand, and often interrogate, modern theories of desire and difference? Conversely, how do postcolonial and other contemporary perspectives allow us to re-read this past?

SM 773. (AFRC770, ENGL770) Afro-American Autobiography. (M) Staff.

An advanced seminar in African-American literature and culture.

SM 778. (ENGL778, GSWS778) Twentieth Century Aesthetics. (M) Staff.

This course explores notions that have conditioned 20th century attitudes toward beauty: among them, ornament, form, fetish, the artifact "women", the moves to 20th century fiction, art manifestos, theory, and such phenomena as beauty contests and art adjudications.

SM 780. (MUSC780) Seminar in Theory. (K) Staff.

Seminar on selected topics in music theory and analysis.

SM 787. (ARTH794, ENGL778) Topics in Contemporary Art. (C) Silverman.

Topics vary each semester.

Fall 2016: By 1842--three years after the official invention of photography--photographers had already begun hand-coloring their daguerreotypes, and a century and a half later Richter started smearing and spattering paint onto small photographs, and exhibiting them along with his abstract and figurative paintings. By the mid-1850's, many artists were also painting from photographs, sometimes by projecting them onto their canvases, and treating these projections as preparatory drawings. They called the resulting images "photo paintings." And although it became increasingly "disreputable" to work in this way as the century progressed, Eugene Delacroix, Gustave Courbet, Edouard Manet, Henri Fantin-Latour, Edgar Degas and Edouard Vuillard all made paintings that are in one way or another "photographic." Some of them also saw photography as the gateway to a new kind of figurative painting.

Abstraction hardened the distinction between art and photography, and brought these medium-crossings to an end. However, photo painting resurfaced in the 1950s and 1960s, and although it initially seemed ironic, it has outlived the movements that made this reading possible. As we can now see, photo-painting is a far more complex and multi-faceted way of generating images than those generally associated with Pop, Institutional Critique and Appropriation.

We will begin this seminar with the two most important practitioners of nineteenth century photo painting, Edouard Manet and Edgar Degas. We will then direct our attention to a group of twentieth and twenty-first century photo-painters:

COMPARATIVE LITERATURE AND LITERARY THEORY

Richard Artschwager, Marlene Dumas,
Richard Hamilton, Gerhard Richter,
Wilhelm Sasnal, and Luc Tuymans.

**SM 790. (ENGL790, GRMN690,
GSWS790) Recent Issues in Critical
Theory. (M)** Staff. This is a topics course.

Course varies with instructor. Recent
versions have been "Critical Theory:
Legacies of the Frankfurt School;"
"Auteurism and Artificiality in Film
Studies;" "Hegel's Legacy;" "The Stigma
Archive;" "Queer Theory."

**SM 791. (ENGL797) Topics in 20th
Century Culture. (M)** Staff.

Usually focusing on non-fictional texts, this
course varies in its emphasis depending on
the instructor.

SM 795. (ENGL795) Poetics. (M) Staff.

Topics in poetics will vary in its emphasis
depending on the instructor.

**998. Independent Study and
Research. (C)**

Designed to allow students to pursue a
particular research topic under the close
supervision of an instructor.

**999. Independent Reading and
Research. (C)**

May be taken for multiple course credit to a
maximum of two for the M.A. and four for
the Ph.D. Designed to allow students to
broaden and deepen their knowledge of
literary theory, a national literature, and/or
an area of special interest.

COMPUTER & INFORMATION TECHNOLOGY (EG) {CIT}

L/R 590. Programming Languages and Techniques. (C)

Introduction to fundamental concepts of programming and computer science for students who have little or no experience in these areas. Principles of modern object-oriented programming languages: abstraction, types, polymorphism, encapsulation, and inheritance. Basic algorithmic techniques and informal complexity analysis. Graphical user interfaces. Substantial programming assignments in Python and Java. This course is for students who do not have an academic background in computer science and who are not pursuing the Master's in Computer Information Technology and who are not graduate students in the CIS Department.

L/R 591. Introduction to Software Development. (C)

Introduction to fundamental concepts of programming and computer science. Principles of modern object-oriented programming languages: abstraction, types, polymorphism, encapsulation, inheritance, and interfaces. This course will also focus on best practices and aspects of software development such as software design, software testing, pair programming, version control, and using IDEs. Substantial programming assignments.

L/R 592. Mathematical Foundations of Computer Science. (C)

This course introduces you to math concepts that form the backbone of the

majority of computer science. Topics covered include sets, functions, permutations and combinations, discrete probability, expectation, mathematical Induction and graph theory. The goal of the course is to ensure that students are comfortable enough with the math required for most of the CIS electives. CIS 502 and CIT596 heavily rely on concepts taught in this course.

L/R 593. Introduction to Computer Systems. (C)

This course provides an introduction to fundamental concepts of computer systems and computer architecture. You will learn the C programming language and an instruction set (machine language) as a basis for understanding how computers represent data, process information, and execute programs. The course also focuses on the Unix environment and includes a weekly hands-on lab session.

L/R 594. Data Structures and Software Design. (C) Prerequisite(s): CIT 591 or consent of the instructor.

This course will focus on data structures, software design, and advanced Java. The course starts off with an introduction to data structures and basics of the analysis of algorithms. Important data structures covered will include arrays, lists, stacks, queues, trees, hash maps, and graphs. The course will also focus on software design and advanced Java topics such as software architectures, design patterns, networking, multithreading, and graphics. We will use Java for the entire course.

L/R 595. Computer Systems Programming. (C) Prerequisite(s): CIT 593 or equivalent.

This course builds on your knowledge of C and focuses on systems programming for Linux, specifically the libraries that

programmers use for threading and concurrency, synchronization, inter-process communication, and networking. The course also introduces the C++ programming language, and covers important concepts in modern operating systems, including processes, scheduling, caching, and virtual memory. After completing this course, you will have the requisite knowledge and experience for systems-focused CIS graduate-level electives.

L/R 596. Algorithms and Computation. (C) Prerequisite(s): CIT 592 or equivalent.

This course focuses primarily on the design and analysis of algorithms. We will begin with sorting and searching algorithms and then spend most of the course on graph algorithms. In order to study graph algorithms, general algorithm design patterns like dynamic programming and greedy algorithms will be introduced. A section of this course is also devoted to understanding NP-Completeness.

L/R 597. Programming for the Web. (C) Prerequisite(s): CIT 591 or equivalent and CIT 594 or equivalent. No prior experience with C# or .NET required.

This course will focus on web programming. The first half will focus on the the basics of the Internet and the Web, HTML and CSS, and basic and advanced Ruby. The second half will focus on Rails. Teams (of size 2-3) will build a web application in the second half of the semester as the class project. Through Rails, we'll explore the "culture" of web programming such as agile methodology, testing, key aspects of software engineering, using web services and APIs, and deploying to the cloud.

COMPUTER AND INFORMATION SCIENCE (EG) {CIS}

099. Undergraduate Research/Independent Study. (C) A maximum of 2 c.u. of CIS 099 may be applied toward the B.A.S. or B.S.E. degree requirements.

An opportunity for the student to become closely associated with a professor (1) in a research effort to develop research skills and techniques and/or (2) to develop a program of independent in-depth study in a subject area in which the professor and student have a common interest. The challenge of the task undertaken must be consistent with the student's academic level. To register for this course, the student must submit a detailed proposal, signed by the independent study supervisor, to the SEAS Office of Academic Programs (111 Towne) no later than the end of the "add" period.

L/L 101. Introduction to Computer Science. (A) Corequisite(s): Math 104 or Math 150. This counts as a Formal Reasoning course for College students.

This course is an introduction to the basic principles and great ideas of computer science intended for non-engineering students. It covers some of the essential topics of contemporary computer science from a mathematical perspective. No programming experience necessary. Open to all non-SEAS students. SEAS students may not take for credit toward their engineering degree.

L/R 105. Computational Data Exploration. (C)

The primary goal of this course is to introduce computational methods of interacting with data. In this course, students will be introduced to the IPython programming environment. They will learn how to gather data, store it in appropriate data structures and then either write their own functions or use libraries to analyze and then display the salient information in that data. Data will be drawn from a variety of domains, including but not limited to travel, entertainment, politics, economics, biology etc.

106. (ANTH258) Visualizing the Past. (C)

Most people's information about the Past is drawn from coffee table picture books, popular movies, video games, documentaries about discoveries of "ancient, mysterious, and lost" civilizations,

and tours often lead by guides of limited or even dubious credentials. How are these ideas presented, formed, and circulated? Who creates and selects the information presented in this diverse media? Are these presentations accurate? Do they promote or hurt scientific explanations? Can the artistic, aesthetic, and scientific realms be bridged to effectively promote and interpret the past? How can modern technologies be applied to do a better job at presenting what is difficult to experience firsthand? This class will focus on case studies, critiques, and methods of how archaeology and the past are created, presented and used in movies, museums, games, the internet, and art.

Each year, the studio-seminar focuses on a project. In addition to exploring general concepts of archaeology and the media, students will work in teams to produce an interactive, digital media exhibit using the latest modeling visualization programs for presenting the sacred landscape of the Inca capital of Cuzco, Peru. Cuzco is one of the most important UNESCO World Heritage sites and visited by nearly a million tourists a year. Potential class projects include fly-throughs of architectural and landscape renderings, simulations of astronomy and cosmology, modeling of human behavior within architectural and landscape settings, and study artifacts in the Penn Museum.

L/R 110. Introduction to Computer Programming. (C) See the CIS 110 website for information about registration in recitations and permission to register for closed sections of CIS 110. Counts as a Formal Reasoning course for College students.

Introduction to Computer Programming is the first course in our series introducing students to computer science. In this class you will learn the fundamentals of computer programming in Java, with emphasis on applications in science and engineering. You will also learn about the broader field of computer science and algorithmic thinking, the fundamental approach that computer scientists take to solving problems.

112. (PPE 112) Networked Life. (C)

How does Google find what you're looking for... and exactly how do they make money doing so? What properties might we expect any social network (such as the Penn Facebook) to reliably have, and are there "simple" explanations for them? How does your position in a social or economic network (dis)advantage you, and why? What might we mean by the economics of spam? What do game theory and the Paris

subway have to do with Internet routing? Networked Life looks at how our world is connected -- socially, economically, strategically and technologically -- and why it matters.

L/R 120. Programming Languages and Techniques I. (C) This counts as a Formal Reasoning course for College students.

A fast-paced introduction to the fundamental concepts of programming and software design. This course assumes some previous programming experience, at the level of a high school computer science class or CIS110. (If you got at least 4 in the AP Computer Science A or AB exam, you will do great.) No specific programming language background is assumed: basic experience with any language (for instance Java, C, C++, VB, Python, Perl, or Scheme) is fine. If you have never programmed before, you should take CIS 110 first.

L/R 121. Programming Languages and Techniques II: Data Structures in Java. (B) Prerequisite(s): CIS 120, CIS 160.

This is an introductory course about Basic Algorithms and Data Structures using the Java programming language. We introduce elementary concepts about the complexity of an algorithm and methods for analyzing the running time of software. We describe data structures like stacks, queues, lists, trees, priority queues, maps, hash tables and graphs, and we discuss how to implement them efficiently and how to use them in problems-solving software. A larger project introducing students to some of the challenges of software development concludes the course.

125. (EAS 125) Technology and Policy.

Have you ever wondered why sharing music and video generates such political and legal controversies? Is information on your PC safe and should law enforcement be able to access information you enter on the Web? Will new devices allow tracking of your every move and every purchase? CIS 125 is focused on developing an understanding of existing and emerging technologies, along with the political, societal and economic impacts of those technologies. The technologies are spread across a number of engineering areas and each of them raise issues that are of current concern or are likely to be a future issue.

L/R 140. (COGS001, LING105, PHIL044, PPE 140, PSYC207) Introduction to Cognitive Science.

(A) This counts as a Formal Reasoning course for College students.

How do minds work? This course surveys a wide range of answers to this question from disciplines ranging from philosophy to neuroscience. The course devotes special attention to the use of simple computational and mathematical models. Topics include perception, learning, memory, decision making, emotion and consciousness.

L/R 160. Mathematical Foundations of Computer Science. (B)

Corequisite(s): CIS 120.

What are the basic mathematical concepts and techniques needed in computer science? This course provides an introduction to proof principles and logics, functions and relations, induction principles, combinatorics and graph theory, as well as a rigorous grounding in writing and reading mathematical proofs.

L/R 190. C++ Programming. (C)

Prerequisite(s): CIS 240.

This course will provide an introduction to programming in C++ and is intended for students who already have some exposure to programming in another language such as Java. C++ provides the programmer with a greater level of control over machine resources and are commonly used in situations where low level access or performance are important. This course will illuminate the issues associated with programming at this level and will cover issues such as explicit memory management, pointers, the compilation process and debugging. The course will involve several programming projects which will provide students with the experience they need to program effectively in these languages. This course assumes programming experience equivalent to CIS 110, CIS 120 or ESE 112.

L/R 191. Using and Understanding Unix and Linux. (C) Prerequisite(s): CIS 110 or equivalent.

Unix, in its many forms, runs much of the world's computer infrastructure, from cable modems and cell phones to the giant clusters that power Google and Amazon. This half-credit course provides a thorough introduction to Unix and Linux. Topics will range from critical basic skills such as examining and editing files, compiling programs and writing shell scripts, to higher level topics such as the architecture of Unix and its programming model. The

material learned is applicable to many classes, including CIS 240, CIS 331, CIS 341, CIS 371, and CIS 380.

L/R 192. Python Programming. (C)

Prerequisite(s): CIS 120 or ESE 112.

Python is an elegant, concise, and powerful language that is useful for tasks large and small. Python has quickly become a popular language for getting things done efficiently in many in all domains: scripting, systems programming, research tools, and web development. This course will provide an introduction to this modern high-level language using hands-on experience through programming assignments and a collaborative final application development project.

193. C# Programming. (C)

Prerequisite(s): CIS 110.

C# is the premier programming language for the .NET framework. Over the last decade, the language has evolved to meet the needs of a variety of programming styles while supporting the ever-growing capabilities of the .NET runtime and libraries. This course provides a thorough introduction to the C# language and the .NET framework, building on the skills gained in the introductory programming courses (CIS 110, CIS 120, or ESE 112). In addition to providing the student with a solid background in C#, this course also explores topics that the .NET platform exposes such as object oriented design, .NET runtime internals, and others based on class interest. A series of short, weekly homework assignments reinforces the concepts introduced in class and a group-based final project of the students' design allows them to apply their C# knowledge toward a substantial problem.

L/R 194. Haskell. (C)**L/R 195. iPhone App Development. (C)****L/R 196. Ruby on Rails Web Develop.****L/R 197. JAVASCRIPT. (C)****L/R 198. RUST PROGRAMMING. (C)****240. Introduction to Computer Systems. (A)** Prerequisite(s): CIS 110 or CIS 120, and sufficient programming maturity.

The goal of this course is to teach you how a computer really works. We begin by discussing transistors, the basic switching elements that constitute modern computers. We then describe how these transistors can be aggregated into more complex units like gates and ALUs and ultimately datapaths

that perform computation. Once we have described how we can build a computer we will move on to talking about assembly language and how the computer is programmed at the lowest level. We will spend the second half of the course talking about the C programming language and how the features of this language are mapped onto the lower level assembly constructs.

L/R 261. Discrete Probability, Stochastic Processes, and Statistical Inference. (A)

Prerequisite(s): CIS 160 or equivalent.

This course tightly integrates the theory and applications of discrete probability, discrete stochastic processes, and discrete statistical inference in the study of computer science. The course will introduce the Minimum Description Length Paradigm to unite basic ideas about randomness, inference and computation. Students will be expected to use the Maple programming environment in homework exercises which will include numerical and symbolic computations, simulations, and graphical displays.

L/R 262. Automata, Computability, and Complexity. (A) Prerequisite(s): CIS 160.

This course explores questions fundamental to computer science such as which problems cannot be solved by computers, can we formalize computing as a mathematical concept without relying upon the specifics of programming languages and computing platforms, and which problems can be solved efficiently. The topics include finite automata and regular languages, context-free grammars and pushdown automata, Turing machines and undecidability, tractability and NP-completeness. The course emphasizes rigorous mathematical reasoning as well as connections to practical computing problems such as test processing, parsing, XML query languages, and program verification.

320. Introduction to Algorithms. (B)

Prerequisite(s): CIS 120, 121, 160, 262.

How do you optimally encode a text file? How do you find shortest paths in a map? How do you design a communication network? How do you route data in a network? What are the limits of efficient computation? This course gives a comprehensive introduction to design and analysis of algorithms, and answers along the way to these and many other interesting computational questions. You will learn about problem-solving; advanced data structures such as universal hashing and red-black trees; advanced design and

analysis techniques such as dynamic programming and amortized analysis; graph algorithms such as minimum spanning trees and network flows; NP-completeness theory; and approximation algorithms.

330. Design Principles of Information Systems. (A) Prerequisite(s): CIS 121 and 160.

Introduction to database management systems and principles of design. The Entity-Relationship model as a modeling tool. The relational model: formal languages, the industry standard SQL, relational design theory, query optimization. Storing and querying XML data. Recursive queries, Views and data integration. Overview of system level issues: physical data organization, indexing techniques, and transactions. Connecting databases to the Web. Course work requires programming in several different query languages, several written homeworks and a team project.

334. Advanced Topics in Algorithms. (M) Prerequisite(s): CIS 320.

Can you check if two large documents are identical by examining a small number of bits? Can you verify that a program has correctly computed a function without ever computing the function? Can students compute the average score on an exam without ever revealing their scores to each other? Can you be convinced of the correctness of an assertion without ever seeing the proof? The answer to all these questions is in the affirmative provided we allow the use of randomization. Over the past few decades, randomization has emerged as a powerful resource in algorithm design. This course would focus on powerful general techniques for designing randomized algorithms as well as specific representative applications in various domains, including approximation algorithms, cryptography and number theory, data structure design, online algorithms, and parallel and distributed computation.

341. Compilers and Interpreters. (M) Prerequisite(s): Two semesters of programming courses, e.g., CIS 120-121, and CIS 240.

You know how to program, but do you know how to implement a programming language? In CIS341 you'll learn how to build a compiler. Topics covered include: lexical analysis, grammars and parsing, intermediate representations, syntax-directed translation, code generation, type checking, simple dataflow and control-flow analyses, and optimizations. Along the

way, we study objects and inheritance, first-class functions (closures), data representation and runtime-support issues such as garbage collection. This is a challenging, implementation-oriented course in which students build a full compiler from a simple, typed object-oriented language to fully operational x86 assembly. The course projects are implemented using OCaml, but no knowledge of OCaml is assumed.

L/R 350. Software Design/Engineering. (M)

Prerequisite(s): CIS 121.

You know how to write a "program". But how do you create a software "product" as part of a team, with customers that have expectations of functionality and quality? This course introduces students to various tools (source control, automated build systems, programming environments, test automation, etc.) and processes (design, implementation, testing, and maintenance) that are used by professionals in the field of software engineering. Topics will include: software development lifecycle; agile and test-driven development; source control and continuous integration; requirements analysis; object-oriented design and testability; Android application development; software testing; refactoring; and software quality metrics.

368. User Interfaces and the Web. (C) Prerequisite(s): CIS 110, CIS 120, CIS 121, CIS 277.

This course will teach the fundamentals of Human-Computer Interaction (theory, design, implementation, experimentation, evaluation) in the context of current web interaction mechanisms, technologies, and applications. The course content will emphasize and leverage open source technologies to design, prototype, implement, and test user-interfaces and functionality in the context of today's most intriguing web trend, social networking.

371. Computer Organization and Design. (B) Prerequisite(s): CIS 240.

This is the second computer organization course and focuses on computer hardware design. Topics covered are: (1) basic digital system design including finite state machines, (2) instruction set design and simple RISC assembly programming, (3) quantitative evaluation of computer performance, (4) circuits for integer and floating-point arithmetic, (5) datapath and control, (6) micro-programming, (7) pipelining, (8) storage hierarchy and virtual memory, (9) input/output, (10) different forms of parallelism including instruction level parallelism, data-level parallelism

using both vectors and message-passing multi-processors, and thread-level parallelism using shared memory multiprocessors. Basic cache coherence and synchronization.

380. Computer Operating Systems. (A) Prerequisite(s): CIS 240.

This course surveys methods and algorithms used in modern operating systems. Concurrent distributed operation is emphasized. The main topics covered are as follows: process synchronization; interprocess communication; concurrent/distributed programming languages; resource allocation and deadlock; virtual memory; protection and security; distributed operation; distributed data; performance evaluation.

390. Robotics: Planning Perception. (M) Prerequisite(s): CIS 121 and MATH 240 or equivalent.

This introductory course will present basic principles of robotics with an emphasis to computer science aspects. Algorithms for planning and perception will be studied and implemented on actual robots. While planning is a fundamental problem in artificial intelligence and decision making, robot planning refers to finding a path from A to B in the presence of obstacles and by complying with the kinematic constraints of the robot. Perception involves the estimation of the robots motion and path as well as the shape of the environment from sensors. In this course, algorithms will be implemented in Python on mobile platforms on ground and in the air. No prior experience with Python is needed but we require knowledge of data structures, linear algebra, and basic probability.

398. Quantum Computer and Information Science. (C)

Prerequisite(s): PHYS 151, MATH 240, MATH 312/314, CIS 160 and CIS 162.

The purpose of this course is to introduce undergraduate students in computer science and engineering to quantum computers (QC) and quantum information science (QIS). This course is meant primarily for juniors and seniors in Computer Science. No prior knowledge of quantum mechanics (QM) is assumed. Enrollment is by permission of the instructor.

400. Senior Project. (A) Prerequisite(s): Senior standing or permission of instructor.

The goal of the senior design course is to provide students with an opportunity to define, design and execute a significant project. Project subjects may revolve around software, hardware or

computational theory. Students must have an abstract of their Senior Project, which is approved and signed by a Project Advisor early in the Fall semester. The project is expected to span two semesters; students must enroll in CIS 401 during the second semester. At the end of the first semester, students are required to submit an intermediate report and give a presentation describing their project and progress. Grades are based on technical writing skills (as per submitted report) presentation skills and progress on the project. These are evaluated by the Project Adviser and the Course Instructor.

401. Senior Project. (B) Prerequisite(s): CIS 400, senior standing or permission of instructor.

Continuation of CIS 400. Design and implementation of a significant piece of work: software, hardware or theory. Students are required to submit a final written report and give a final presentation and demonstration of their project. Grades are based on the report, the presentation and the satisfactory completion of the project. These are evaluated by the Project Adviser and the Course Instructor.

419. (CIS 519) Introduction to Machine Learning. (C)

Machine learning has been essential to the success of many recent technologies, including autonomous vehicles, search engines, genomics, automated medical diagnosis, image recognition, and social network analysis, among many others. This course will introduce the fundamental concepts and algorithms that enable computers to learn from experience, with an emphasis on their practical application to real problems. This course will introduce supervised learning (decision trees, logistic regression, support vector machines, Bayesian methods, neural networks and deep learning), unsupervised learning (clustering, dimensionality reduction), and reinforcement learning. Additionally, the course will discuss evaluation methodology and recent applications of machine learning, including large scale learning for big data and network analysis.

421. (CIS 521) Artificial Intelligence. Prerequisite(s): CIS 120, CIS 121, Introductory statistics, introductory logic and familiarity with finite state automata are all useful.

Artificial Intelligence is considered from the point of view of a resource-limited knowledge-based agent who must reason and act in the world. Topics include search, knowledge representation and reasoning,

probabilistic reasoning, machine learning, logic, automatic theorem proving, and natural language processing. Programming assignments in Python.

430. Introduction to Human Language Technology. (A)

Prerequisite(s): CIS 121.

This course is an automatic summarization that can help alleviate the information overload problem caused by the unprecedented amount of online textual information. The building of a summarization system requires good understanding of the properties of human language and the use of various natural language tools. In this course we will build several summarization systems of increasing complexity and sophistication. In the process we will learn about various natural language processing tools and resources such as part of speech tagging, chunking, parsing, Wordnet, and machine learning toolkits. We will also cover probability and statistics concepts used in summarization, but also applicable to a wide range of other language-related tasks.

441. (CIS 541) Embedded Software for Life-Critical Applications. (C)

Prerequisite(s): CIS 240 or equivalent; ESE 350 recommended.

This course is focused on cyber physical systems with emphasis on real-time issues. Cyber physical systems are integrations of computation and communication with physical processes. Embedded computers monitor and control physical processes in real-time. As these embedded computer transformed from word processors to global communications devices for information gathering and sharing, embedded computers will change from small self-contained systems to cyber-physical systems by sensing,

The course is to study principles, methods, and techniques for building high-assurance cyber-physical systems. Topics will include requirements capture and modeling, mental models, assurance cases, hazard analysis, real-time programming and communication, real-time scheduling and virtual machines, feedback control in computer systems, verification and validseries of projects that will implement safety-critical embedded systems (e.g., pacemaker, infusion pump).

450. (CIS 550) Database and Information Systems. (A)

Prerequisite(s): CIS 121, 160.

This course provides an introduction to the broad field of database and information systems, covering a variety of topics relating to structured data, ranging from

data modeling to logical foundations and popular languages, to system implementations. We will study the theory of relational and XML data design; the basics of query languages; efficient storage of data, execution of queries and query optimization; transactions and updates; web-database development; and "big data" and NoSQL systems. The course assumes mathematical and programming experience equivalent to CIS160 and CIS121.

455. (CIS 555) Internet and Web Systems. (C) Prerequisite(s): Familiarity with threads and concurrency, strong Java programming skills.

This course focuses on the challenges encountered in building Internet and web systems: scalability, interoperability (of data and code), security and fault tolerance, consistency models, and location of resources, services, and data. We will examine how XML standards enable information exchange; how web services support cross-platform interoperability (and what their limitations are); how to build high-performance application servers; how "cloud computing" services work; how to perform Akamai-like content distribution; and how to provide transaction support in distributed environments. We will study techniques for locating machines, resources, and data (including directory systems, information retrieval indexing, ranking, and web search); and we will investigate how different architectures support scalability (and the issues they face). We will also examine ideas that have been proposed for tomorrow's Web, and we will see some of the challenges, research directions, and potential pitfalls. An important goal of the course is not simply to discuss issues and solutions, but to provide hands-on experience with a substantial implementation project.

This semester's project will be a peer-to-peer implementation of a Google-style search engine, including distributed, scalable crawling; indexing with ranking; and even PageRank. As a side-effect of the material of this course you will learn about some aspects of large-scale software development assimilating large APIs.

460. (CIS 560) Interactive Computer Graphics. (A) Prerequisite(s): CIS 120, CIS 121 and CIS 240 are useful pre- or co-requisites.

The course is intended as an intensive programming course meeting three times a week. Students will create a computational graphics and geometry software library over the course of the semester. Software design, debugging, unit testing, code reuse, and code sharing will be important

characteristics of the programming assignments. There will be (nominally) one assignment due each week. The individual assignments will be small enough to ensure completion, but they are designed to grow into a library of reusable C++ code for other graphics projects or purposes. All code will be based on OpenGL and/or Visual Studio, with QT used as the GUI development environment. There will be a midterm and a final exam. The grading will be approximately 15% midterm, 20% final and about 7% per homework assignment.

461. (CIS 561) Advanced Computer Graphics. (C) Prerequisite(s): A working knowledge of C++ programming is required (one year programming experience in general). Knowledge of vector geometry is useful.

This course is designed to provide a comprehensive overview to computer graphics techniques in 3D modeling, image synthesis, and rendering. Topics cover: geometric transformations, geometric algorithms, software systems, 3D object models (surface, volume and implicit), visible surface algorithms, image synthesis, shading, mapping, ray tracing, radiosity, global illumination, sampling, anti-aliasing, Monte Carlo path tracing, and photon mapping.

462. (CIS 562) Computer Animation. (C) Prerequisite(s): Previous exposure to major concepts in linear algebra (i.e. vector matrix math), curves and surfaces, dynamical systems (e.g. 2nd order mass-spring-damper systems) and 3D computer graphics has also been assumed in the preparation of the course materials.

This course covers core subject matter common to the fields of robotics, character animation and embodied intelligent agents. The intent of the course is to provide the student with a solid technical foundation for developing, animating and controlling articulated systems used in interactive computer game virtual reality simulations and high-end animation applications. The course balances theory with practice by "looking under the hood" of current animation systems and authoring tools and exams the technologies and techniques used from both a computer science and engineering perspective. Topics covered include: geometric coordinate systems and transformations; quaternions; parametric curves and surfaces; forward and inverse kinematics; dynamic systems and control; computer simulation; keyframe, motion capture and procedural animation; behavior-based animation and control;

facial animation; smart characters and intelligent agents.

477. (LING549) Mathematical Methods/Techniques for Linguistics and Natural Language Processing.

(M) Prerequisite(s): PHIL 006 or instructor's permission.

Basic concepts of set theory, relations and functions, properties of relations. Basic concepts of algebra. Grammars, languages, and automata- finite state grammars, regular expressions, context-free and context-sensitive grammars, unrestricted grammars, finite automata, pushdown automata and other related automata, Turing machines, Syntax and semantics of grammar formalisms. Strong generative capacity of grammars, Grammars as deductive systems, parsing as deduction. Relevance of formal grammars to modeling biological sequences. The course will deal with these topics in a very basic and introductory manner--ideas of proofs and not detailed proofs, and more importantly with plenty of linguistic examples to bring out the linguistic relevance of these topics.

The course will deal with these topics in a very basic and introductory manner--ideas of proofs and not detailed proofs, and more importantly with plenty of linguistic examples to bring out the linguistic relevance of these topics.

480. Real-Time and Embedded Systems. (M) Prerequisite(s): CIS 380, some network programming experience is desirable.

Ever increasing availability of inexpensive processors connected by a communication network has motivated the development of numerous concepts and paradigms for distributed real-time embedded systems. The primary objectives of this course are to study the principles and concepts of real-time embedded computing and to provide students hands-on experience in developing embedded applications. This course covers the concepts and theory necessary to understand and program embedded real-time systems. This includes concepts and theory for real-time system design, analysis, and certification; programming and operating systems for embedded systems; and concepts, technologies, and protocols for distributed embedded real-time systems.

The course will cover a variety of existing systems and technologies, e.g., real-time machines, architectural description language, formal meth and logical-time programming paradigms, and certification. The course requires active student participation in-group projects. Each group will be responsible for the design and

implementation of a life-critical embedded system such as a pacemaker. The group projects are intended to complement the learning of principles and concepts through the application of theory in practice and the development of experimental skills in building embedded applications.

482. (CIS 582) Logic In Computer Science. (C) Prerequisite(s): CIS 160.

Logic has been called the calculus of computer science as it plays a fundamental role in computer science, similar to that played by calculus in the physical sciences and traditional engineering disciplines. Indeed, logic is useful in areas of computer science as disparate as architecture (logic gates), software engineering (specification and verification), programming languages (semantics, logic programming), databases (relational algebra and SQL), artificial intelligence (automatic theorem proving), algorithms (complexity and expressiveness), and theory of computation (general notions of computability). CIS 482 provides the students with a thorough introduction to mathematical logic, covering in depth the topics of syntax, semantics, decision procedures, formal proof systems, and soundness and completeness for both propositional and first-order logic. The material is taught from a computer science perspective, with an emphasis on algorithms, computational complexity, and tools. Projects will focus on problems in circuit design, specification and analysis and protocols, and query evaluation in databases.

497. DMD Senior Project. (C)

Prerequisite(s): Senior Standing or Permission of the Instructor.

The goal of this course is to provide an opportunity for seniors to define, design and execute a project of your own choosing that demonstrates the technical skills and abilities that you have acquired during your 4 years as undergraduates. Evaluation is based on selecting an interesting topic, completing appropriate research on the state of the art in that area, communicating your objectives in writing and in presentations, accurately estimating what resources will be required to complete your chosen task, coding necessary functionality, and executing your plan.

500. Software Foundations. (C)

Prerequisite(s): CIS 121, 160, and 262 (or equivalents); plus substantial mathematical maturity (at least two additional undergraduate courses in math or theoretical CS). Undergraduate-level coursework in programming languages, compilers, functional programming, or logic is helpful but not required.

This course introduces basic concepts and techniques in the foundational study of programming languages. The central theme is the view of programs and programming languages as mathematical objects for which precise claims may be made and proved. Particular topics include operational techniques for formal definition of language features, type systems and type safety properties, polymorphism, constructive logic, and the Coq proof assistant. This course is appropriate as an upper-level undergraduate CIS elective. Undergraduates who have satisfied the prerequisites are welcome to enroll. No permission from the instructor is needed.

L/R 501. Computer Architecture. (C)

Prerequisite(s): Knowledge of computer organization and basic programming skills.

This course is an introductory graduate course on computer architecture with an emphasis on a quantitative approach to cost/performance design tradeoffs. The course covers the fundamentals of classical and modern uniprocessor design: performance and cost issues, instruction sets, pipelining, superscalar, out-of-order, and speculative execution mechanisms, caches, physical memory, virtual memory, and I/O. Other topics include: static scheduling, VLIW and EPIC, software speculation, long (SIMD) and short (multimedia) vector execution, multithreading, and an introduction to shared memory multiprocessors.

L/R 502. Analysis of Algorithms. (C)

Prerequisite(s): Data Structures and Algorithms at the undergraduate level. Programming experience (CIT 594 or equivalent) is helpful but not necessary.

An investigation of paradigms for design and analysis of algorithms. The course will include dynamic programming, flows and combinatorial optimization algorithms, linear programming, randomization and a brief introduction to intractability and approximation algorithms. The course will include other advanced topics, time permitting.

505. Software Systems. (C)

Prerequisite(s): Undergraduate-level knowledge of Operating Systems and Networking, programming experience (CIT 594 or equivalent).

This course provides an introduction to fundamental concepts of distributed systems, and the design principles for building large scale computational systems. Topics covered include communication, concurrency, programming paradigms, naming, managing shared state, caching, synchronization, reaching agreement, fault tolerance, security, middleware, and distributed applications. This course is appropriate as an upper-level undergraduate CIS elective.

510. (CIS 410) Curves and Surfaces: Theory and Applications. (M)

Prerequisite(s): Basic knowledge of linear algebra, calculus, and elementary geometry. CIS 560 is not required.

The course is about mathematical and algorithmic techniques used for geometric modeling and geometric design, using curves and surfaces. There are many applications in computer graphics as well as in robotics, vision, and computational geometry. Such techniques are used in 2D and 3D drawing and plot, object silhouettes, animating positions, product design (cars, planes, buildings), topographic data, medical imagery, active surfaces of proteins, attribute maps (color, texture, roughness), weather data, art, etc. Three broad classes of problems will be considered: approximating curved shapes, using smooth curves or surfaces. Interpolating curved shapes, using smooth curves or surfaces. Rendering smooth curves or surfaces.

511. Theory of Computation. (C)

Prerequisite(s): Discrete Mathematics, Automata theory or Algorithms at the undergraduate level.

Review of regular and context-free languages and machine models. Turing machines and RAM models, Decidability, Halting problem, Reductions, Recursively enumerable sets, Universal TMs, Church/Turing thesis. Time and space complexity, hierarchy theorems, the complexity classes P, NP, PSPACE, L, NL, and co-NL. Reductions revisited, Cook-Levin Theorem, completeness, NL = co-NL. Advanced topics as time permits: Circuit complexity and parallel computation, randomized complexity, approximability, interaction and cryptography.

515. Fundamentals of Linear Algebra and Optimization. (C)

Prerequisite(s): Undergraduate course in linear algebra, calculus.

This course provides firm foundations in linear algebra and basic optimization techniques. Emphasis is placed on teaching methods and tools that are widely used in various areas of computer science. Both theoretical and algorithmic aspects will be discussed.

SM 518. (MATH571, PHIL412) Topics in Logic: Finite Model Theory and Descriptive Complexity. (C)

This course will examine the expressive power of various logical languages over the class of finite structures. The course begins with an exposition of some of the fundamental theorems about the behavior of first-order logic in the context of finite structures, in particular, the Ehrenfeucht-Fraïssé Theorem and the Trakhtenbrot Theorem. The first of these results is used to show limitations on the expressive power of first-order logic over finite structures while the second result demonstrates that the problem of reasoning about finite structures using first-order logic is surprisingly complex. The course then proceeds to consider various extensions of first-order logic including fixed-point operators, generalized quantifiers, infinitary languages, and higher-order languages. The expressive power of these extensions will be studied in detail and will be connected to various problems in the theory of computational complexity. This last motif, namely the relation between descriptive and computational complexity, will be one of the main themes of the course.

519. (CIS 419) Introduction to Machine Learning. (C)

Machine learning has been essential to the success of many recent technologies, including autonomous vehicles, search engines, genomics, automated medical diagnosis, image recognition, and social network analysis, among many others. This course will introduce the fundamental concepts and algorithms that enable computers to learn from experience, with an emphasis on their practical application to real problems. This course will introduce supervised learning (decision trees, logistic regression, support vector machines, Bayesian methods, neural networks and deep learning), unsupervised learning (clustering, dimensionality reduction), and reinforcement learning. Additionally, the course will discuss evaluation methodology and recent applications of machine learning, including

large scale learning for big data and network analysis.

L/R 520. Machine Learning. (A)

Prerequisite(s): Elementary probability, calculus, and linear algebra. Basic programming experience.

This course covers the foundations of statistical machine learning. The focus is on probabilistic and statistical methods for prediction and clustering in high dimensions. Topics covered include SVMs and logistic regression, PCA and dimensionality reduction, and EM and Hidden Markov Models.

521. (CIS 421) Artificial Intelligence. (C)

Prerequisite(s): CIS 120, CIS 121. Introductory statistics, introductory logic, and familiarity with finite state automata are useful.

Artificial Intelligence is considered from the point of view of a resource-limited knowledge-based agent who must reason and act in the world. Topics include search, knowledge representation and reasoning, probabilistic reasoning, machine learning, logic, automatic theorem proving, and natural language processing. Programming assignments in Python.

526. Machine Translation. (C)

Google translate can instantly translate between any pair of over fifty human languages (for instance, from French to English). How does it do that? Why does it make the errors that it does? And how can you build something better? Modern translation systems like Google Translate and Bing Translator learn how to translate by reading millions of words of already translated text, and this course will show you how they work. The course covers a diverse set of fundamental building blocks from linguistics, machine learning, algorithms, data structures, and formal language theory, along with their application to a real and difficult problem in artificial intelligence.

530. Computational Linguistics. (A)

Computational approaches to the problem of understanding and producing natural language text and speech, including speech processing, syntactic parsing, semantic interpretation, discourse meaning, and the role of pragmatics and world knowledge. The course will examine both rule-based and corpus-based techniques. It is recommended that students have some knowledge of logic, basic linguistics, and/or programming.

534. (CIS 434) Multicore Programming and Architecture. (C)

Prerequisite(s): CIS 371 or CIS 501, and significant programming experience.

This course is a pragmatic examination of multicore programming and the hardware architecture of modern multicore processors. Unlike the sequential single-core processors of the past, utilizing a multicore processor requires programmers to identify parallelism and write explicitly parallel code. Topics covered include: the relevant architectural trends and aspects of multicores, approaches for writing multicore software by extracting data parallelism (vectors and SIMD), thread-level parallelism, and task-based parallelism, efficient synchronization, and program profiling and performance tuning. The course focuses primarily on mainstream shared-memory multicores with some coverage of graphics processing units (GPUs). Cluster-based supercomputing is not a focus of this course. Several programming assignments and a course project will provide students first-hand experience with programming, experimentally analyzing, and tuning multicore software. Students are expected to have a solid understanding of computer architecture and strong programming skills (including experience with C/C++).

L/L 535. (BIOL535, GCB 535) Introduction to Bioinformatics. (A)

Prerequisite(s): The course will assume a solid knowledge of modern biology. An advanced undergraduate course such as BIOL421 or a graduate course in biology such as BIOL526 (Experimental Principles in Cell and Molecular Biology), BIOL527 (Advanced Molecular Biology and Genetics), BIOL528 (Advanced Molecular Genetics), BIOL540 (Genetic Systems, or equivalent, is a prerequisite.

The course covers methods used in computational biology, including the statistical models and algorithms used and the biological problems which they address. Students will learn how tools such as BLAST work, and will use them to address real problems. The course will focus on sequence analysis problems such as exon, motif and gene finding, and on comparative methods but will also cover gene expression and proteomics.

537. (BE 537) Biomedical Image

Analysis. (C) Prerequisite(s): Mathematics through multivariate calculus (Math 241), programming experience, as well as some familiarity with linear algebra, basic physics, and statistics.

This course covers the fundamentals of advanced quantitative image analysis that

apply to all of the major and emerging modalities in biological/biomaterials imaging and in vivo biomedical imaging. While traditional image processing techniques will be discussed to provide context, the emphasis will be on cutting edge aspects of all areas of image analysis (including registration, segmentation, and high-dimensional statistical analysis). Significant coverage of state-of-the-art biomedical research and clinical applications will be incorporated to reinforce the theoretical basis of the analysis methods.

L/R 540. Principles of Embedded Computation. (A)

Prerequisite(s): This course assumes mathematical maturity, commensurate with either ESE 210 (Introduction to Dynamical Systems), or CIS 262 (Introduction to Theory of Computation). It is suitable for students who have an undergraduate degree in computer science, or computer engineering, or electrical engineering. It is also suitable for Penn undergraduates in CIS or CE as an upper-level elective.

This course is focused on principles underlying design and analysis of computational elements that interact with the physical environment. Increasingly, such embedded computers are everywhere, from smart cameras to medical devices to automobiles. While the classical theory of computation focuses on the function that a program computes, to understand embedded computation, we need to focus on the reactive nature of the interaction of a component with its environment via inputs and outputs, the continuous dynamics of the physical world, different ways of communication among components, and requirements concerning safety, timeliness, stability, and performance. Developing tools for approaching design, analysis, and implementation of embedded systems in a principled manner is an active research area. This course will attempt to give students a coherent introduction to this emerging area. This course is appropriate as an upper-level undergraduate CIS elective.

541. (CIS 441) Embedded Software for Life-Critical Applications. (C)

Prerequisite(s): CIS 240 or equivalent, ESE 350 is recommended.

This course is focused on cyber physical systems with emphasis on real-time issues. Cyber physical systems are integrations of computation and communication with physical processes. Embedded computers monitor and control physical processes in real-time. As these embedded computer transformed from word processors to global

communications devices for information gathering and sharing, embedded computers will change from small self-contained systems to cyber-physical systems by sensing.

The course is to study principles, methods, and techniques for building high-assurance cyber-physical systems. Topics will include requirements capture and modeling, mental models, assurance cases, hazard analysis, real-time programming and communication, real-time scheduling and virtual machines, feedback control in computer systems, verification and validseries of projects that will implement safety-critical embedded systems (e.g., pacemaker, infusion pump).

542. Embedded Systems Programming. (C) Prerequisite(s): C fluency.

This course explores techniques for writing correct and efficient embedded code. Topics include C/C++ idioms, data abstraction, elementary data structures and algorithms, environment modeling, concurrency, hard real time, and modular program reasoning.

550. (CIS 450) Database and Information Systems. (A) Prerequisite(s): CIS 121, 160.

This course provides an introduction to the broad field of database and information systems, covering a variety of topics relating to structured data, ranging from data modeling to logical foundations and popular languages, to system implementations. We will study the theory of relational and XML data design; the basics of query languages; efficient storage of data, execution of queries and query optimization; transactions and updates; web-database development; and "big data" and NoSQL systems. The course assumes mathematical and programming experience equivalent to CIS160 and CIS121

551. Computer and Network Security. (B) Prerequisite(s): CIS 53 or equivalent is required; CIS 500 recommended.

This is an introduction to topics in the security of computer systems and communication on networks of computers. The course covers four major areas: fundamentals of cryptography, security for communication protocols, security for operating systems and mobile programs, and security for electronic commerce. Sample specific topics include: passwords and offline attacks, DES, RSA, DSA, SHA, SSL, CBC, IPsec, SET, DDoS attacks, biometric authentication, PKI, smart cards, S/MIME, privacy on the Web, viruses,

security models, wireless security, and sandboxing. Students will be expected to display knowledge of both theory and practice through written examinations and programming assignments.

552. Advanced Programming. (C) Prerequisite(s): Four courses involving significant programming and a discrete mathematics or modern algebra course. Enrollment by permission of the instructor only.

The goals of this course are twofold: (1) to take good programmers and turn them into excellent ones, and (2) to introduce them to a range of modern software engineering practices, in particular those embodied in advanced functional programming languages.

553. Networked Systems. (C) Prerequisite(s): CIS 121 or equivalent, or permission of the instructor.

This course provides an introduction to fundamental concepts in the design and implementation of networked systems, their protocols, and applications. Topics to be covered include: Internet architecture, network applications, addressing, routing, transport protocols, network security, and peer-to-peer networks. The course will involve written assignments, examinations, and programming assignments. Students will work in teams to design and implement networked systems in layers, from routing protocols, transport protocols, to peer-to-peer networks.

554. Programming Paradigms. (C) Prerequisite(s): CIS 121 or CIT 594 or equivalent.

Achieving mastery in a new programming language requires more than just learning a new syntax; rather, different languages support different ways to think about solving problems. Not all programming languages are inherently procedural or object-oriented. The intent of this course is to provide a basic understanding of a wide variety of programming paradigms, such as logic programming, functional programming, concurrent programming, rule-based programming, and others.

555. (CIS 455) Internet and Web Systems. (C) Prerequisite(s): Familiarity with threads and concurrency, strong Java programming skills.

This course focuses on the challenges encountered in building Internet and web systems: scalability, interoperability (of data and code), security and fault tolerance, consistency models, and location of resources, services, and data. We will examine how XML standards enable

information exchange; how web services support cross-platform interoperability (and what their limitations are); how to build high-performance application servers; how "cloud computing" services work; how to perform Akamai-like content distribution; and how to provide transaction support in distributed environments. We will study techniques for locating machines, resources, and data (including directory systems, information retrieval indexing, ranking, and web search); and we will investigate how different architectures support scalability (and the issues they face). We will also examine ideas that have been proposed for tomorrow's Web, and we will see some of the challenges, research directions, and potential pitfalls. An important goal of the course is not simply to discuss issues and solutions, but to provide hands-on experience with a substantial implementation project.

This semester's project will be a peer-to-peer implementation of a Google-style search engine, including distributed, scalable crawling; indexing with ranking; and even PageRank. As a side-effect of the material of this course you will learn about some aspects of large-scale software development assimilating large APIs, thinking about modularity, reading other people's code, managing versions, debugging, etc.

556. Cryptography. (C) Prerequisite(s): CIS 262, 320 or equivalent.

This course is a graduate-level introduction to cryptography, both theory and applications. Topics covered include symmetric cryptography, message authentication, public-key cryptography, digital signatures, cryptanalysis, cryptographic security, and secure channels, as well as a selection of more advanced topics such as zero-knowledge proofs, secure multiparty computation, privacy-enhancing technologies, or lattice-based cryptography.

L/R 557. Programming for the Web. Prerequisite(s): CIS 121, CIT 594, or equivalent, or permission of the instructor.

This course will focus on web programming. The first half will focus on the basics of the internet and the Web, HTML and CSS, and basic and advanced Ruby. The second half will focus on Rails. Teams (of size 2-3) will build a web application in the second half of the semester as the class project. Through Rails, we'll explore the "culture" of web programming such as agile methodology, testing, key aspects of software engineering, using web services and APIs, and deploying to the cloud.

558. (LING525) Computer Analysis and Modeling of Biological Signals and Systems. (B)

Prerequisite(s): Undergraduate-level knowledge of linear algebra.

A graduate course intended to introduce the use of signal and image processing tools for analyzing and modeling biological systems. We present a series of fundamental examples drawn from areas of speech analysis/synthesis, computer vision, and modeling of biological perceptual systems. Students learn the material through lectures and via a set of computer exercises developed in MATLAB.

L/R 559. Programming and Problem Solving. (C)

Prerequisite(s): Proficiency in Java. CIS 320 or CIS 502, or equivalent.

This course develops students problem solving skills using techniques that they have learned during their CS training. Over the course of the semester, students work on group projects in which they use programming techniques to solve open-ended problems, e.g. optimization, simulation, etc. There are no "correct" answers to these problems; rather, the focus is on the four steps of the problem solving process: algorithmic thinking; programming; analysis; and communication.

560. (CIS 460) Interactive Computer Graphics. (A)

The course is intended as an intensive programming course meeting three times a week. Students will create a computational graphics and geometry software library over the course of the semester. Software design, debugging, unit testing, code re-use, and code sharing will be important characteristics of the programming assignments. There will be (nominally) one assignment due each week. The individual assignments will be small enough to ensure completion, but they are designed to grow into a library of reusable C++ code for other graphics projects or purposes. All code will be based on OpenGL and/or Visual Studio, with QT used as the GUI development environment. There will be a midterm and a final exam. The grading will be approximately 15% midterm, 20% final and about 7% per homework assignment.

562. (CIS 462) Computer Animation. (C)

Prerequisite(s): Previous exposure to major concepts in linear algebra (i.e. vector matrix math), curves and surfaces, dynamical systems (e.g. 2nd order mass-spring-damper systems) and 3D computer graphics has also been assumed in the preparation of the course materials.

This course covers core subject matter common to the fields of robotics, character animation and embodied intelligent agents. The intent of the course is to provide the student with a solid technical foundation for developing, animating and controlling articulated systems used in interactive computer games, virtual reality simulations and high-end animation applications. The course balances theory with practice by "looking under the hood" of current animation systems and authoring tools and exams the technologies and techniques used from both a computer science and engineering perspective. Topics covered include: geometric coordinate systems and transformations; quaternions; parametric curves and surfaces; forward and inverse kinematics; dynamic systems and control; computer simulation; keyframe, motion capture and procedural animation; behavior-based animation and control; facial animation; smart characters and intelligent agents.

563. Physically Based Animation. (C)

Prerequisite(s): Students should have a good knowledge of object-oriented programming (C++) and basic familiarity with linear algebra and physics. Background in computer graphics is required (CIS 277 or CIS 560).

This course introduces students to common physically based simulation techniques for animation of fluids and gases, rigid and deformable solids, cloth, explosions, fire, smoke, virtual characters, and other systems. Physically based simulation techniques allow for creation of extremely realistic special effects for movies, video games and surgical simulation systems. We will learn state-of-the-art techniques that are commonly used in current special effects and animation studios and in video games community. To gain hands-on experience, students will implement basic simulators for several systems. The topics will include: Particle Systems, Mass spring systems, Deformable Solids & Fracture, Cloth, Explosions & Fire, Smoke, Fluids, Deformable active characters, Simulation and control of rigid bodies, Rigid body dynamics, Collision detection and handling, Simulation of articulated characters, Simulated characters in games. The course is appropriate for both upper level undergraduate and graduate students.

564. Game Design and Development. (C)

Prerequisite(s): Basic understanding of 3D graphics and animation principles, prior exposure to scripting and programming languages such as Python, C and C++. Prerequisite(s): Basic understanding of 3D graphics and animation principles, prior exposure to scripting and programming languages such as Python, C and C++.

The intent of the course is to provide students with a solid theoretical understanding of the core creative principles, concepts, and game play structures/schemas underlying most game designs. The course also will examine game development from an engineering point of view, including: game play mechanics, game engine software and hardware architectures, user interfaces, design documents, playtesting and production methods.

L/R 565. GPU Programming and Architectur. (C)

Prerequisite(s): CIS 460 or CIS 560, and familiarity with computer hardware/systems. The hardware/systems requirement may be met by CIS 501; or CIT 593 and 595; or CIS 240 (with CIS 371 recommended); or equivalent coursework.

This course examines the architecture and capabilities of modern GPUs. The graphics processing unit (GPU) has grown in power over recent years, to the point where many computations can be performed faster on the GPU than on a traditional CPU. GPUs have also become programmable, allowing them to be used for a diverse set of applications far removed from traditional graphics settings. Topics covered include architectural aspects of modern GPUs, with a special focus on their streaming parallel nature, writing programs on the GPU using high level languages like Cg and BrookGPU, and using the GPU for graphics and general purpose applications in the area of geometry modeling, physical simulation, scientific computing and games. Students are expected to have a basic understanding of computer architecture and graphics, and should be proficient in OpenGL and C/C++. This course is appropriate as an upper-level undergraduate CIS elective.

568. Game Design Practicum. (C)

Prerequisite(s): CIS 462/562, CIS 277 or CIS 460/560. Corequisite(s): CIS 564.

The objective of the game design practicum is to provide students with hands on experience designing and developing 3D computer games. Working in teams of three or four, students will brainstorm an original game concept, write a formal game design document then develop a fully

functional prototype consisting of a playable level of the game. In addition to creation of original art and animation assets for the game, technical features to be designed and implemented include a novel game mechanic and/or user interaction model, game physics (i.e. particle systems and rigid body dynamics), character animation, game AI (i.e. movement control, path planning, decision making, etc.), sound effects and effects and background music, 2D graphical user interface (GUI) design and optional multiplayer networking capabilities. Consistent with standard industry practices, game code and logic will be written using C++ and popular scripting languages such as Python and Lua.

State-of-the-art game and physics engine middleware also will be used to expose students to commercial-grade software, production methodologies and art asset pipelines. As a result of their game development efforts, students will learn first hand about the creative process, design documentation, object-oriented software design and engineering, project management (including effective team collaboration and communication techniques), design iteration through user feedback and play-testing, and most importantly, what makes a game fun to play.

570. Modern Programming Language Implementation. (M) Prerequisite(s): CIS 500. An undergraduate course in compiler construction (CSE 341 or equivalent) is helpful but not required.

This course is a broad introduction to advanced issues in compilers and run-time systems for several classes of programming languages, including imperative, object-oriented, and functional. Particular attention is paid to the structures, analyses, and transformations used in program optimization.

571. (PHIL411) Recursion Theory. (A)

The course covers the basic theory of recursive and recursively enumerable sets and the connection between this theory and a variety of decision problems of interest in a computational setting. The course will then proceed to an exposition of recursion theoretic reducibilities. Elementary results about degrees of unsolvability are established. The theory of arithmetical, analytical, and projective hierarchies will be presented. The study of functionals at this point will provide an entry into the computationally important subject of recursion at higher types. Basic parts of the theory of inductive definitions and monotone operators will be presented. If

time and interest permit, this theory will be applied to the analysis of the semantical paradoxes. The course will conclude with an investigation of the lower levels of the analytical and projective hierarchies. Applications to the degrees of unsolvability of various logical systems will be presented, connections between the hierarchies and predicative formal systems will be established, and the relation between the theory of the projective hierarchy and topics in classical descriptive set theory will be indicated.

SM 572. (PHIL413) Set Theory. (C)

This course is an introduction to set theory. It will begin with a study of Zermelo-Fraenkel set theory (ZF) as a partial description of the cumulative hierarchy of sets. Elementary properties of cardinal and ordinal numbers will be developed in ZF. The inner model of constructible sets will be used to establish the relative consistency of the axiom of choice and the generalized continuum hypothesis with ZF. The method of forcing will be introduced to establish the independence of the continuum hypothesis from ZF and other independence results. Large cardinals and their bearing on the resolution of questions about the continuum will be considered.

573. Software Engineering. (A)

Prerequisite(s): CIT 591 and 593, or CIS 120, 121, and 240, or equivalent; proficiency in Java.

Writing a "program" is easy. Developing a "software product", however, introduces numerous challenges that make it a much more difficult task. This course will look at how professional software engineers address those challenges, by investigating best practices from industry and emerging trends in software engineering research. Topics will focus on software maintenance issues, including: test case generation and test suite adequacy; code analysis verification and model checking; debugging and fault localization; refactoring and regression testing; and software design and quality.

580. Machine Perception. (A)

Prerequisite(s): A solid grasp of the fundamentals of linear algebra. Some knowledge of programming in C and/or Matlab.

An introduction to the problems of computer vision and other forms of machine perception that can be solved using geometrical approaches rather than statistical methods. Emphasis will be placed on both analytical and computational techniques. This course is designed to provide students with an

exposure to the fundamental mathematical and algorithmic techniques that are used to tackle challenging image based modeling problems. The subject matter of this course finds application in the fields of Computer Vision, Computer Graphics and Robotics. Some of the topics to be covered include: Projective Geometry, Camera Calibration, Image Formation, Projective, Affine and Euclidean Transformations, Computational Stereopsis, and the recovery of 3D structure from multiple 2D images. This course will also explore various approaches to object recognition that make use of geometric techniques, these would include alignment based methods and techniques that exploit geometric invariants. In the assignments for this course, students will be able to apply the techniques to actual computer vision problems. This course is appropriate as an upper-level undergraduate CIS elective.

581. Computer Vision & Computational Photography. (M)

This is an introductory course to Computer Vision and Computational Photography. This course will explore three topics: 1) image morphing, 2) image matching and stitching, and 3) image recognition. This course is intended to provide a hands-on experience with interesting things to do on images/videos. The world is becoming image-centric. Cameras are now found everywhere, in our cell phones, automobiles, even in medical surgery tools. Computer vision technology has led to latest innovations in areas such as Hollywood movie production, medical diagnosis, biometrics, and digital library. This course is suited for students from all Engineering backgrounds, who have the basic knowledge of linear algebra and programming, and a lot of imagination.

582. (CIS 482) Logic in Computer Science. (C) Prerequisite(s): CIS 160 or CIT 592 or equivalent.

Logic has been called the calculus of computer science as it plays a fundamental role in computer science, similar to that played by calculus in the physical sciences and traditional engineering disciplines. Indeed, logic is useful in areas of computer science as disparate as architecture (logic gates), software engineering (specification and verification), programming languages (semantics, logic programming), databases (relational algebra and SQL), artificial intelligence (automatic theorem proving), algorithms (complexity and expressiveness), and theory of computation (general notions of computability). CIS 582 provides students with a thorough introduction to mathematical logic,

covering in depth the topics of syntax, semantics, decision procedures, formal proof systems, and soundness and completeness for both propositional and first-order logic. The material is taught from a computer science perspective, with an emphasis on algorithms, computational complexity, and tools. Projects will focus on problems in circuit design, specification and analysis of protocols, and query evaluation in databases.

597. Master's Thesis Research. (C)

For students working on an advanced research leading to the completion of a Master's thesis.

599. Independent Study for Masters Students. (C)

For master's students studying a specific advanced subject area in computer and information science. Involves coursework and class presentations. A CIS 599 course unit will invariably include formally gradable work comparable to that in a CIS 500-level course. Students should discuss with the faculty supervisor the scope of the Independent Study, expectations, work involved, etc.

601. Advanced Topics in Computer Architecture. (C) Prerequisite(s): CIS 501 or strong performance in CIS 371.

This course will focus on research topics in computer architecture, and include reading and presenting research papers and an optional project. The content will differ with each offering, covering topics such as multicore programmability, datacenter and warehouse-scale computing, security, energy-efficient architectures, etc.

610. (MATH676) Advanced Geometric Methods in Computer Science. (B) Prerequisite(s): CIS 510 or coverage of equivalent material.

The purpose of this course is to present some of the advanced geometric methods used in geometric modeling, computer graphics, computer vision, etc. The topics may vary from year to year, and will be selected among the following subjects (nonexhaustive list): Introduction to projective geometry with applications to rational curves and surfaces, control points for rational curves, rectangular and triangular rational patches, drawing closed rational curves and surfaces; Differential geometry of curves (curvature, torsion, osculating planes, the Frenet frame, osculating circles, osculating spheres); Differential geometry of surfaces (first fundamental form, normal curvature, second fundamental form, geodesic curvature, Christoffel symbols, principal

curvatures, Gaussian curvature, mean curvature, the Gauss map and its derivative dN , the Dupin indicatrix, the Theorema Egregium equations of Codazzi-Mainardi, Bonnet's theorem, lines of curvatures, geodesic torsion, asymptotic lines, geodesic lines, local Gauss-Bonnet theorem).

613. (ESE 617, MEAM613) Nonlinear Control Theory. (M) Prerequisite(s): A sufficient background to linear algebra (ENM 510/511 or equivalent) and a course in linear control theory (MEAM 513 or equivalent), or written permission of the instructor.

The course studies issues in nonlinear control theory, with a particular emphasis on the use of geometric principles. Topics include: controllability, accessibility, and observability, for nonlinear systems; Forbenius' theorem; feedback and input/output linearization for SISO and MIMO systems; dynamic extension; zero dynamics; output tracking and regulation; model matching disturbance decoupling; examples will be taken from mechanical systems, robotic systems, including those involving nonholonomic constraints, and active control of vibrations.

SM 620. Advanced Topics in Artificial Intelligence. (B) Prerequisite(s): CIS 520 or equivalent.

Discussion of problems and techniques in Artificial Intelligence (AI): Knowledge Representation, Natural Language Processing, Constraint Systems, Machine Learning; Applications of AI.

SM 625. Computational Learning Theory. (C) Prerequisite(s): Prior courses in algorithms, complexity and statistics would be helpful but are not necessary.

This course is an introduction to Computational Learning Theory, a field which attempts to provide algorithmic, complexity-theoretic and statistical foundations to modern machine learning. The focus is on topics in computational learning theory for researchers and students in artificial intelligence, neural networks, theoretical computer science, and statistics.

SM 630. Advanced Topics in Natural Language Processing. (C)

Prerequisite(s): CIS 530 or equivalent or permission of instructor.

Different topics selected each offering; e.g., NL generation, question-answering, information extraction, machine translation, restricted grammar formalisms, computational lexical semantics, etc.

SM 635. (BIOL537, GCB 537) Advanced Computational Biology.

(A) Prerequisite(s): Biol 536 or permission of the instructor.

Discussion of special research topics.

SM 639. Statistical approaches to Natural Language Understanding. (C)

This course examines the recent development of corpus-based techniques in natural language processing, focusing on both statistical and primarily symbolic learning techniques. Particular topics vary from year to year.

SM 640. Advanced Topics in Software Systems. (B) Prerequisite(s): CIS 505 or equivalent.

Different topics selected for each course offering.

SM 650. Advanced Topics in Databases. (B) Prerequisite(s): CIS 550.

Advanced topics in databases: distributed databases, integrity constraints, failure, concurrency control, relevant relational theory, semantics of data models, the interface between programming of languages and databases. Object-oriented databases. New topics are discussed each year.

SM 660. Advanced Topics in Computer Graphics and Animation. (B) Prerequisite(s): CIS 560 or permission of the instructor.

The goal of the course is to review state-of-the-art research in the fields of computer graphics and animation as well as provide students with working knowledge of how to convert theory to practice by developing an associated graphics/animation authoring tool. The course is comprised of primers, lectures, student presentations and the authoring tool group project. Each student will be responsible for presenting one primer and at least two SIGGRAPH papers to the class. Working in teams of two, students will design and develop an authoring tool that facilitates the creation of a new type of user interaction, animation/simulation capability or 3D graphics special effect. Research papers published in the SigGraph Conference proceedings will provide the basis for the features/functionality/special effects that can be selected for implementation in the authoring tool. Each group will analyze the need and user requirements for the tool they plan to develop, prepare a formal software design document, construct a project work plan, develop the authoring tool functionality and user interface, test the design and demonstrate the authoring of

associated content. A plug-in to standard authoring tools such as Maya or Houdini must also be developed to enable importing of appropriate assets and/or exporting of results.

SM 670. Advanced Topics in Programming Languages. (C)

Prerequisite(s): CIS 500.

The details of this course change from year to year, but its purpose is to cover theoretical topics related to programming languages. Some central topics include: denotational vs operational semantics, domain theory and category theory, the lambda calculus, type theory (including recursive types, generics, type inference and modules), logics of programs and associated completeness and decidability problems, specification languages, and models of concurrency. The course requires a degree of mathematical sophistication.

673. Computer-Aided Verification. (C)

Prerequisite(s): Basic knowledge of algorithms, data structures, automata theory, propositional logic, operating systems, communication protocols, and hardware (CIS 262, CIS 380, or permission of the instructor).

This course introduces the theory and practice of formal methods for the design and analysis of concurrent and embedded systems. The emphasis is on the underlying logical and automata-theoretic concepts, the algorithmic solutions, and heuristics to cope with the high computational complexity. Topics: Models and semantics of reactive systems; Verification algorithms; Verification techniques. Topics may vary depending on instructor.

677. Advanced Topics in Algorithms and Complexity. (A)

Prerequisite(s): Consent of the instructor.

This course covers various aspects of discrete algorithms. Graph-theoretic algorithms in computational biology, and randomization and computation; literature in dynamic graph algorithms, approximation algorithms, and other areas according to student interests.

SM 680. Advanced Topics in Machine Perception. (B)

Prerequisite(s): A previous course in machine perception or knowledge of image processing, experience with an operating system and language such as Unix and C, and aptitude for mathematics. A previous course in machine perception or knowledge of image processing, experience with an operating system and language such as Unix and C, and aptitude for mathematics.

Graduate seminar in advanced work on machine perception as it applies to robots as well as to the modeling of human perception. Topics vary with each offering.

682. Friendly Logics. (C)

The use of logical formalisms in Computer Science is dominated by a fundamental conflict: expressiveness vs. algorithmic tractability. Database constraint logics, temporal logics and description logics are successful compromises in this conflict: (1) they are expressive enough for practical specifications in certain areas, and (2) there exist interesting algorithms for the automated use of these specifications.

Interesting connections can be made between these logics because temporal and description logics are modal logics, which in turn can be seen, as can database constraint logics, as certain fragments of first-order logic. These connections might benefit research in databases, computer-aided verification and AI. Discussion includes other interesting connections, eg., with SLD-resolution, with constraint satisfaction problems, with finite model theory and with automata theory.

700. Special Topics. (M)

One time course offerings of special interest. Equivalent to a CIS 5XX level course.

800. PhD Special Topics. (C)

One-time course offerings of special interest. Equivalent to CIS seminar course. Offerings to be determined.

899. Doctoral Independent Study. (C)

For doctoral students studying a specific advanced subject area in computer and information science. The Independent Study may involve coursework, presentations, and formally gradable work comparable to that in a CIS 500 or 600 level course. The Independent Study may also be used by doctoral students to explore research options with faculty, prior to determining a thesis topic. Students should discuss with the faculty supervisor the scope of the Independent Study, expectations, work involved, etc. The Independent Study should not be used for

ongoing research towards a thesis, for which the CIS 999 designation should be used.

990. Masters Thesis.

For master's students who have taken ten course units and need only to complete the writing of a thesis or finish work for incompletes in order to graduate. CIS 990 carries full time status with zero course units and may be taken only once.

995. Dissertation.

For Ph.D. candidates working exclusively on their dissertation research, having completed enrollment for a total of ten semesters (fall and spring). There is no credit or grade for CIS 995.

996. Research Seminar. (C)

Introduction to research being conducted in the department. Mandatory for first-year doctoral students. Taken as fifth course for no credit at no cost.

999. Thesis/Dissertation Research. (C)

For students pursuing advanced research to fulfill PhD dissertation requirements.

312. Theory of Networks. (C)

Prerequisite(s): ESE 301 and MATH 312.

Networks are ubiquitous in our modern society, playing an increasingly larger role in everyday life. These include: Social Networks such as Facebook or Twitter, infrastructure networks such as the Internet, or energy networks such as the electric grid. Network Science and Engineering is a new discipline that investigates the structure of large complex networks and their behavior and properties, and then designing technologies that control and manipulate their behaviors to bring about greater benefits to society. In this course students will learn some of the basic tools, methods, and algorithms for analysis of networked systems, as well as practical applications of this new science.

112. Networked Life. (A)

What kind of science is appropriate for understanding the Facebook? How does Google find what you're looking for... and exactly how do they make money doing so? What properties might we expect any social network to reliably have, and are there simple explanations for them? How does your position in an economic network (dis)advantage you? How are individual and collective behavior related in complex networks? What might we mean by the economics of spam? What do game theory and the Paris subway have to do with Internet routing? Networked Life looks at

how our world is connected -- socially, economically, strategically and technologically -- and why it matters.

150. Market and Social Systems on the Internet.

Want to understand the sociological and algorithmic aspects of friend recommendation? Want to know how Google decides what 10 answers to return, out of the 10 million matching results? Want to understand how search engines have revolutionized advertising? Then this is the course for you! NETS 150 provides an overview of the issues, theoretical foundations, and existing techniques in networks (social, information, communication) and markets on the Internet. Subsequent NETS courses are available for students wishing to explore any of these topics in greater detail.

212. Scalable and Cloud Computing. (A) Prerequisite(s): CIS 120, CIS 160. Corequisite(s): CIS 121.

What is the "cloud"? How do we build software systems and components that scale to millions of users and petabytes of data, and are "always available"? In the modern Internet, virtually all large Web services run atop multiple geographically distributed data centers: Google, Yahoo, Facebook, iTunes, Amazon, EBAY, Bing, etc. Services must scale across thousands of machines, tolerate failures, and support thousands of concurrent requests. Increasingly, the major providers (including Amazon, Google, Microsoft, HP, and IBM) are looking at "hosting" third-party applications in their data centers - forming so-called "cloud computing" services.

This course, aimed at a sophomore with exposure to basic programming within the context of a single machine, focuses on the issues and programming models related to such cloud and distributed data processing technologies: how to think about dividing both data and work across large clusters of machines, both within and across data centers, how to design algorithms that do this parallel computation, and how to implement the algorithms in new frameworks such as MapReduce.

213. Crowdsourcing and Human Computation. (C) Prerequisite(s): CIS 120 or prior programming experience.

Crowdsourcing and human computation are emerging fields that sit squarely at the intersection of economics and computer science. They examine how people can be used to solve complex tasks that are currently beyond the capabilities of artificial intelligence algorithms. Online marketplaces like Mechanical Turk and CrowdFlower provide an infrastructure that allows micropayments to be given to people in return for completing human intelligence tasks. This opens up previously unthinkable possibilities like people being used as function calls in software. We will investigate how crowdsourcing can be used for computer science applications like machine learning, next-generation interfaces, and data mining. Beyond these computer science aspects, we will also delve into topics like prediction markets, how businesses can capitalize on collective intelligence, and the fundamental principles that underlie democracy and other group decision-making processes.

L/R 312. Theory of Networks. (C)

Want to understand how memes spread across the Internet? How organisms exhibit flocking behavior? How the structure of a network can help predict behavior among the nodes? This course is a rigorous study of the structure and function of complex networks. From World Wide Web to networks of banks and lenders that form the financial sector, to friendship networks that influence our opinion and everyday decision-making, networks have become an integral part of our daily lives.

412. Algorithmic Game Theory. (C)

How should an auction for scarce goods be structured if the sellers wish to maximize their revenue? How badly will traffic be snarled if drivers each selfishly try to minimize their commute time, compared to if a benevolent dictator directed traffic? How can couples be paired so that no two couples wish to swap partners in hindsight? How can you be as successful as the best horse-racing expert at betting on horse races, without knowing anything about horse racing? In this course, we will take

an algorithmic perspective on problems in game theory, to solve problems such as the ones listed above. Game theory has applications in a wide variety of settings in which multiple participants with different incentives are placed in the same environment, must interact, and each "player"'s actions affect the others.

597. MASTER'S THESIS RESEARCH. (C)

599. MASTERS INDEPEND STUDY. (C)

COMPUTER & INFORMATION SCIENCE (CIS)

Graduate Courses

561. (CIS 461) Advanced Computer Graphics. (C) Prerequisite(s): A working knowledge of C++ programming is required (one year programming experience in general). Knowledge of vector geometry is useful.

This course is designed to provide a comprehensive overview to computer graphics techniques in 3D modeling, image synthesis, and rendering. Topics cover: geometric transformations, geometric algorithms, software systems, 3D object models (surface, volume and implicit), visible surface algorithms, image synthesis, shading, mapping, ray tracing, radiosity, global illumination, sampling, anti-aliasing, Monte Carlo path tracing, and photon mapping.

MARKET and SOCIAL SYSTEMS (MKSE)

150. Mkt/Soc Sys on Internet. (C)

393. SENIOR EXAM.

398. SENIOR EXAM.

783. MUTUAL HELP ORGS & SW.

901. GRAD DNTL CORE SCIENCE.

CRIMINOLOGY (AS) {CRIM}

120. Data Science I: Applications in Criminal Justice. Berk.

Data Science I will introduce student to the collection, management, and analysis of data. Students will learn some basic programming in R, a leading programming language for the management and analysis of large and complex administrative data (big data). Unlike conventional introductory statistics courses that focus on analysis of data using commercial software packages, this course will emphasize data collection, management, analysis using basic computer programming and with real data common in criminal justice settings. Hands on experience will be emphasized. The textbook in Introductory Statistics with R, second edition, by Peter Dalggaard (Springer, 2009)

270. BIOSOCIAL CRIMINOLOGY. (A) Raine.

Is there a "natural-born killer"? Why don't psychopaths have a conscience? And is it morally wrong for us to punish those who are biologically-wired for a life of crime? This interdisciplinary biosocial course argues that answers to these inscrutable questions can be found in the fledging field of "neurocriminology". This new sub-discipline brings together the social, clinical, and neurosciences to help us better understand, predict, and prevent future crime. We will explore the biosocial bases to crime and violence, analyze controversial neuroethical, legal and philosophical issues surrounding neurocriminology, and take a field trip to prison. This interdisciplinary course presents perspectives from the fields of psychology, neuroscience, criminology, sociology, law, business, public health, psychiatry, anthropology, neuroimaging, neuroendocrinology, forensics, nutrition, and pediatrics. It is suitable for those without a background in biology or criminology. It is particularly relevant for majors in Criminology, Psychology, Nursing, and Biological Basis of Behavior.

402. (CRIM602) CRIM JUSTICE ANALYTICS. (C)

474. (STAT474, STAT974) MODERN REGRESSION. (B)

L/L 535. Introduction to Quantitative Methods for Policy Analysis. (C)
Owens.

This course is an introduction to the basic mathematical tools and ideas that support

quantitative policy analysis. By the end of the semester, students will be able to identify and explain measures of central tendency and variation for categorical and continuous variables; describe the statistical relationship between two variables; conduct and explain "foundational" statistical tests, including hypothesis testing and linear regression analysis; manipulate data sets and write simple statistical programs in Stata.

671. (PSYC671) Violence: A Clinical Neuroscience Approach. (A) Raine.

Developed for both Psychology and Criminology graduates in particular, this interdisciplinary course outlines a clinical neuroscience approach to understanding violence in which the tools of neuroscience- neuroanatomy, neurophysiology, neurocognition, neuroendocrinology, neuropharmacology, molecular and behavioral genetics- are used to help inform the etiology and treatment of violence. Clinical components include psychopathy, proactive and reactive aggression, homicide domestic violence, conduct disorder, oppositional defiant disorder, antisocial personality disorder, crime, and delinquency as well as their comorbid conditions (schizophrenia, drug abuse, hyperactivity). The interaction between social, psychological, and neurobiological processes in predisposing to violence will be highlighted, together with neurodevelopmental perspectives on violence focusing on prospective longitudinal and brain imaging research. Key implications for the criminal justice system, neuroethics, forensics psychology, and intervention will also be outlined.

Undergraduate Courses

100. (SOC1233) Criminology. (C) Society Sector. All classes. Hyatt.

This introductory course examines the multi-disciplinary science of law-making, law-breaking, and law-enforcing. It reviews theories and data predicting where, when, by whom and against whom crimes happen. It also addresses the prevention of different offense types by different kinds of offenders against different kinds of people. Police, courts, prisons, and other institutions are critically examined as both preventing and causing crime. This course meets the general distribution requirement.

150. Statistics for the Social Sciences. (A) Ridgeway.

Statistical techniques and quantitative reasoning are essential tools for properly examining questions in the social sciences. This course introduces students to the

concepts of probability, estimation, confidence intervals, and statistical inference. The course has an applied focus and will show students how to use the statistical concepts and methods to answer social science questions. The course will require the use of R, a free, open source statistical analysis program. CRIM150 has been approved for the quantitative data analysis requirement (QDA).

200. (SOC1200) Criminal Justice. (C) Society Sector. All classes. MacDonald.

This course examines how the criminal justice system responds to crime in society. The course reviews the historical development of criminal justice agencies in the United States and Europe and the available scientific evidence on the effect these agencies have on controlling crime. The course places an emphasis on the functional creation of criminal justice agencies and the discretionary role decision makers in these agencies have in deciding how to enforce criminal laws and whom to punish. Evidence on how society measures crime and the role that each major criminal justice agency plays in controlling crime is examined from the perspective of crime victims, police, prosecutors, jurors, judges, prison officials, probation officers and parole board members. Using the model of social policy evaluation, the course asks students to consider how the results of criminal justice could be more effectively delivered to reduce the social and economic costs of crime.

260. Crime and Human Development. (C) Loeffler.

One of the central research problems in criminology is the relationship between human development and the likelihood of committing crime. This course will examine the tools for measuring the onset of crime, its persistence, intermittency, and desistance. These tools include the study of birth cohorts of everyone born in a certain time and place, life course studies of juvenile delinquents and non-delinquents, trajectory analysis of people studied from pre-school through middle age, and interviews with 70 year old former delinquents who reflect on how their life-course affected the crimes they committed. This course will also examine the research findings that have been produced using these tools. Students will be asked to consider what these findings imply for major theories of crime causation as well as policies for crime prevention.

SM 280. (SOCI380, URBS280) Neighborhood Dynamics of Crime. (B) Loeffler.

Crime varies in time, space and populations as it reflects ecological structures and the routine social interactions that occur in daily life. Concentrations of crime can be found among locations, with antisocial activities like assaults and theft occurring at higher rates because of the demographic make-up of people (e.g. adolescents) or conflicts (e.g. competing gangs), for reasons examined by ecological criminology. Variation in socio-demographic structures (age, education ratios, and the concentration of poverty) and the physical environment (housing segregation, density of bars, street lighting) predicts variations between neighborhoods in the level of crime and disorder. Both ethnographic and quantitative research methods are used to explore the connections between the social and physical environment of areas and antisocial behavior.

300. Law and Criminal Justice. (C) Laufer.

This course explores constitutional criminal procedure or the law of the Fourth, Fifth, and Sixth Amendments to the United States Constitution. Topics included the laws and rules associated with search and seizure, arrest, interrogation, the exclusionary rule, and deprivation of counsel. Social science evidence that supports or raises questions about legal doctrine will be examined. No prerequisites are required.

320. Practical Data Analysis. (B) Heller.

This course provides a hands-on introduction to data analysis for social science, with a focus on examples from the criminal justice system. Students will gain experience with the practical side of statistics by learning to explore, analyze, interpret, and present data - tasks which permeate both the academic and professional practice of criminology (and many other fields). The course will provide instruction on how to use Excel, Stata, and ArcGIS to answer questions of interest, as well as insight into how professionals use data in practice.

330. Drugs and Gangs. (A) Owens.

How do markets for illegal goods and services differ from the typical economic markets we participate in on a daily basis? Why is a gang different from other types of groups, and what makes "gang related" crime different from other types of criminal behavior? In this class we will study how illegal markets and illegal groups function,

why individuals participate in them, and what federal, state, and local governments do to disrupt "organized" illegal activity.

Academic research and media reports on drug markets and gang activity will be evaluated according to economic theories of law, public finance, and organizational behavior. Upon completion of this course, students will be able to use empirical and qualitative evidence to critique existing and proposed policies aimed at reducing the social cost of drug use and gang activity.

SM 410. (CRIM610, SOCI410) Research Seminar in Experiments in Crime and Justice. (A) Loeffler.

Prerequisite(s): Any statistics or research methods courses leading to familiarity with Excel, SPSS, R, Stata, SAS, Matlab, or NumPy.

This seminar focuses on examining data from experiments in criminology including: randomized controlled trials of criminal justice policies, "natural" experiments in crime, and other quasi-experimental studies. A series of experiments conducted by Penn scholars and elsewhere will be examined. This seminar also guides criminology majors in writing a research proposal for their thesis. Students will learn about how to formulate a research question, develop a review of the literature, and how to apply necessary empirical methods. The final paper for this course will be a research proposal that can serve as the basis for the student's senior thesis and to satisfy the senior capstone requirement. Readings will come from the disciplines of criminology, sociology, psychology, economics, and urban planning.

Graduate Courses

SM 600. (SOCI680) Pro-Seminar in Criminology. (A) MacDonald.

This course provides an overview of the leading criminological theories of crime. The central focus is on the major theories of crime developed over the past century from the disciplines of economics, psychology, and sociology. The course will focus on the application of social science research as a way to evaluate theories of crime. Special attention is devoted to the issues of measurement of crime and what is known from the available empirical data. In addition, the course will focus on how these theoretical perspectives relate to public policy responses to crime.

SM 601. (SOCI681) Pro-Seminar in Criminal Justice. (B) Owens.

Prerequisite(s): CRIM 600.

This course examines the scholarship on the causes and consequences of the

development of the criminal justice system. The primary focus of the course is on the historical development and contemporary impact of key actors in the criminal justice system, such as the police, courts, and corrections, on society. The course will examine the social and economic effect of criminal justice policies and practices. The course emphasizes evidence from the available social science research in the United States, with some reference to research in other European nations.

602. (CRIM402) Criminal Justice Data Analytics. (C) Ridgeway.

This course covers the tools and techniques to acquire, organize, link and visualize complex data in order to answer questions about crime and the criminal justice system. The course is organized around key questions about police shootings, victimization rates, benchmarking justice system performance, identifying crime hotspots, calculating the cost of crime, and finding out what happens to crime when it rains. On the way to answer these questions, the course will cover topics including data sources, basic programming techniques, SQL, text mining, regular expressions, and geocoding. The course will use R, an open-source, object oriented scripting language with a large set of available add-on packages.

SM 603. Research Methods 2/Crime Analysis. (B) Heller.

This course provides an overview of the application of social science research methods and data analysis to criminology. The course will place an emphasis on diagnostic and analytic tools for the data analysis. Students will learn basic statistical techniques for the analysis of social science data and how to interpret results as part of the rigorous practice of evidence-based Criminology. M.S. Studentw will perform semester-long, data-based crime analysis project using quantitative analysis to address a specific research question. Student projects culminate with an oral class presentation and the submission of a written thesis.

SM 604. Criminology in Practice. (E) Ridgeway.

In this capstone course speakers from the University of Pennsylvania and other academic institutions and from non-profit research organizations discuss their research, while speakers from government and criminal justice policy and practice settings -the consumer of research- share their insights. Members of the cohort interact with all guest speakers.

634. Evidence-Based Crime Prevention. (A) Heller.

This course considers the use of evidence to identify effective crime prevention policies. The course will teach students to think critically about what constitutes convincing evidence, use benefit-cost analysis in comparing policy alternatives, and write effective policy memos that can translate research into practice. We will develop these skills by studying the effects of different policy approaches to crime prevention including incarceration, policing, gun control, drug regulation, and place-based interventions, as well as education, social programs, and labor market policies. Emphasis will be on the methodological challenges to identifying "what works" and the empirical methods to overcome those challenges.

SM 700. (SOCL700) Advanced Pro-Seminar in Criminology. (A) Staff.

This second year doctoral course is a weekly discussion group designed to help students integrate their coursework from different disciplines around the unifying perspectives of criminology. It focuses on preparation for the doctoral comprehensive examination, detailed critiques of published research reports, and colloquia by leading guest lecturers presenting new research results. Students preparing for dissertation research on the causes and prevention of crime will report on their developing research ideas.

SM 701. Advanced Pro-Seminar in Criminal Justice. (B) Staff.

This second year doctoral course is a weekly discussion group designed to help students integrate their coursework from different disciplines around the behavior

and operation of criminal law systems. It focuses on preparation for the doctoral comprehensive examination, detailed critiques of published and unpublished research reports, and colloquia by leading guest lecturers presenting new research results. Students preparing for dissertation research on the behavior of criminal law will report on their developing research ideas.

800. Thesis Research Project. (C) Staff.

999. Independent Study and Research. (C) Both terms.

Primarily for advanced students who work with individual faculty upon permission. Intended to go beyond existing graduate courses in the study of specific problems or theories or to provide work opportunities in areas not covered by existing courses.

DEMOGRAPHY (AS) {DEMG}

SM 524. (SOCI524) Advanced Topics in the Sociology of the Family. (M) Staff.

The course will review a series of theoretical issues in the sociology of the family and examine major empirical studies in which theoretical advances have been made. Special attention will be given to work that has a historical and comparative perspective. Opportunities will be provided for original research on the family.

L/R 535. (SOCI535) Quantitative Methods in Sociology I. (A) Allison, Smith. Prerequisite(s): Basic algebra.

This course is an introduction to the practice of statistics in social and behavioral sciences. It is open to beginning graduate students and--with the permission of the instructor--advanced undergraduates. Topics covered include the description of social science data, in graphical and non-graphical form; correlation and other forms of association, including cross-tabulation; bivariate regression; an introduction to probability theory; the logic of sampling; the logic of statistical inference and significance tests. There is a lecture twice weekly and a mandatory "lab."

L/R 536. (SOCI536) Quantitative Methods in Sociology II. (B) Allison, Kohler, Park, Schnittker, Smith. Prerequisite(s): SOCI 535 or permission of instructor.

As the second part of a two-semester sequence, this graduate course focuses on regression analysis as used in social science research. In particular, we discuss features and assumptions of linear regression and logistic regression models. We learn how to apply regression models to real social science data using Stata and how to interpret the results.

SM 541. (GSWS532, SOCI541) Gender, the Labor Force, and Markets. (M) Madden.

Drawing from sociology, economics and demography, this course examines the causes and effects of gender differences in labor force participation, earnings and occupation in the United States and in the rest of the developed and developing world. Differences by race, ethnicity and sexual preference are also considered. Theories of labor supply, marriage, human capital and discrimination are explored as explanations for the observed trends. Finally, the course reviews current labor market policies and

uses the theories of labor supply, marriage, human capital and discrimination to evaluate their effects on women and men.

604. (SOCI604) Methodology of Social Research. (B) Harknett, Smith, Wilde, Zuberi.

This course will give students familiarity with the common research methods social scientists use to conduct research. Ethnographic, interview, survey, experimental and historical/comparative research methods will be covered. Four themes will be explored: 1) the basics of solid research design, 2) the various advantages and disadvantages of each method, 3) when the use of a method is appropriate or inappropriate for the research question, and 4) how to evaluate researchers' claims on the basis of the evidence they present. These themes will be explored by reading examples of and conducting exercises designed to give students hands-on experience in each of the methods. Students will conduct the exercises on a topic of their choice, which together will culminate in their final paper. The course is required and restricted to second year students in sociology and demography.

607. (SOCI607) Introduction to Demography. (A) Staff.

A nontechnical introduction to fertility, mortality and migration and the interrelations of population with other social and economic factors.

609. (SOCI609) Basic Methods of Demography. (A) Elo, Guillot, Smith.

The course is designed to introduce students to basic concepts of demographic measurement and modeling used to study changes in population size and composition. The course covers basic measures of mortality, fertility and migration; life table construction; multiple decrement life tables; stable populations; population projections; and age patterns of vital events. Students will learn to apply demographic methods through a series of weekly problem sets.

611. (SOCI611) STRUCT. EQUATION MODEL. (M) Allison.

Statistical modeling with multiple equations and latent variables. The first part of the course will focus on linear models that could be estimated with any of the well-known SEM programs (e.g., LISREL, EQS, or Amos). Both Mplus and SAS will be used exclusively in this part of the course. The second part will focus on Mplus models for variables that are categorical, count, or censored. Maximum

likelihood methods for missing data will also be covered.

612. (SOCI612) CATEGORICAL DATA ANALYSS. (M) Allison.

This course deals with techniques for analyzing multivariate data which the dependent variable is a set of categories (a dichotomy or polytomy). Topics will include linear probability models, logit (logistic) regression models, probit models, logit analysis of contingency tables, cumulative logit and probit (for ordinal data), multinomial logit, conditional logit (discrete choice), unobserved heterogeneity, log-linear models, square tables, response-based sampling, and repeated measures. Methods will be illustrated using the Stata System. There will be several assignments using Stata to analyzedata provided by the instructor.

613. (SOCI613) Event History Analysis. Allison. Prerequisite(s): SOCI 536 or equivalent.

An applications-oriented course on statistical methods for the analysis of longitudinal data on the occurrence of events, also known as survival analysis, failure-time analysis, hazard analysis or duration analysis. Emphasis on regression-like models in which the risk of event occurrence is a function of a set of explanatory variables. Topics include accelerated failure-time models, hazard models, censoring, Cox regression models, time-dependent covariates, completing risks, repeated events, unobserved heterogeneity, discrete-time methods.

SM 622. (SOCI622) Fertility. (M) Smith, Kohler, H.

The biological, social and demographic factors explaining the levels, trends and differentials in human fertility. Data, measures, and methods used in the context of the more and the less developed countries, with an emphasis on the historical and current course of the fertility transition.

SM 630. (SOCI630) Advanced Special Topics. (M) Staff.

Topics vary from semester to semester. Course titles include: Race, Colonialism & Methods; Mistakes, Errors, Accidents & Disasters, Graduate Research Practicum, Sociology of Violence: Gangs & Organized Crime.

SM 633. (SOCI633) Population Processes I. (A) Elo, Guillot, Parrado, Schnittker.

This is one of two courses that serve as an introduction to core areas of demography

and important developments in the field. Population Processes I introduces students to broad set of issues in health, mortality, and aging. Readings cover overviews of major topics as well as recent approaches to the subject. Attention is focused on description and explanation of variation in health across time, space and social groups. One consequence of mortality decline is population aging. We will cover some of its implications for individuals, families and societies.

SM 634. (SOCI634) Population Processes II. (B) Flippen, Harknett, Kohler, Parrado, Smith.

Population Processes II is part of a two-course sequence designed to introduce students to the core areas of demography (fertility, mortality, and migration) and recent developments in the field. PP II is divided into two parts. The first focuses on family demography and the biological, social and demographic factors explaining levels, trends, and differentials in human fertility transition with an emphasis on the historical and current course of fertility transition in developed and developing countries. The second part of the course provides a comprehensive review of theories and research on international migration. Readings examine patterns and processes of global migration during the classic age from 1800-1914 as well as during the postwar period from 1945 to the present. The course also covers a history and evaluation of immigration policies around the world, and devotes significant attention to theoretical and empirical perspectives on immigrant adaptation, including the relationship between gender and migration.

643. (SOCI643) Social Stratification. Jacobs, Park.

This is an advanced level graduate seminar where we will review contemporary research on social stratification and mobility. We will examine empirical and theoretical studies not only in the US but also in other countries to address how the pattern of social stratification varies across societies and over time. The main topics to be discussed are social mobility, occupational attainment, educational inequality, gender and race, and family processes and stratification. We will also examine studies that address how national contexts mediate social stratification. Advanced undergraduate students will be admitted with permission.

662. (SOCI662) PANEL DATA ANALYSIS.

SM 670. (SOCI670) Family Data. (M) Harknett.

This two semester course will engage each graduate student in an analysis project with qualitative and quantitative components, using a linked qualitative longitudinal data set. Students will use survey data from the baseline and 12 month wave of the Fragile Families study (described at <http://crcw.princeton.edu/fragilefamilies/>), a national survey of unwed and married parents who have just had a child (with unmarried parents over sampled) They will also use transcripts and coded data from the TLC3 study, which involved qualitative couple and individual interviews conducted with a subset of 75 of the couples in the FF survey in 3 waves: about 3 months after the birth and then again 12 and 24 months after the birth. Most of these are low-income, unmarried, cohabiting parents. The goal of the course is for each student to use these two data sets, and the analytic techniques and literature covered in the course, to write a paper that can be submitted for publication. The spring will also include lots of tips on how to construct a publishable paper. Students should only enroll in this course if they plan to take the spring sequel course as well.

SM 677. (SOCI677) International Migration. (M) Flippen.

A comprehensive review of theories and research on international migration. The course introduces the basic precepts of neoclassical economics, the new economics of labor migration, segmented labor market theory, world systems theory, social capital theory and the theory of cumulative causation. Readings examine patterns and processes of global migration during the classic age from 1800-1914 as well as during the postwar period from 1945 to the present. The course also covers a history and evaluation of immigration policies around the world, and devotes significant attention to theoretical and empirical perspectives on immigrant adaptation. Within this larger topic, we will also discuss internal migration and urbanization; the relationship between gender and migration; the spatial distribution of immigrants within the United States, immigrant communities, and ethnic enclaves; and the undocumented population in the United States.

SM 707. (SOCI707) Second-Year Research Seminar I. (A) Staff.

This course is intended to hone the skills and judgment in order to conduct independent research in sociology and demography. We will discuss the selection of intellectually strategic research questions

and practical research designs. Students will get experience with proposal writing, the process of editing successive drafts of manuscripts, and the oral presentation of work in progress as well as finished research projects. The course is designed to be the context in which master's papers and second year research papers are written. This is a required course for second year graduate students in Demography. Others interested in enrolling in only one of the courses may do so with the permission of the Chair of the Graduate Group in Demography.

SM 708. (SOCI708) Second-Year Research Seminar II. (B) Staff.

Demography 708 is the second part of a two-course sequence designed to introduce and familiarize second year students with current norms for academic research, presentation and publishing in the field of Demography. In Demg708 students are expected to finalize the analyses and to complete their second year research paper. This is a required course for second year demography students. Others interested in enrolling in the course may do so with the permission of the Chair of the Graduate Group in Demography.

SM 731. (SOCI731) Advanced Demographic Methods. (M) Smith.

Prerequisite(s): DEMG 609 and SOCI 536 (or its equivalent).

This course considers a variety of procedures for measuring and modeling demographic processes. We will consider both deterministic (drawn from classic demographic methods, stable population theory, and the like) and stochastic (drawn from statistics) perspectives and methods, including their integration. Pre-requisites: DEMG 609 and SOCI 536 (or its equivalent).

SM 777. (SOCI777) Special Topics in Demography. (M) Staff.

Special Topics in Demography

796. (SOCI796) Demographic, Economic, and Social Interrelations. (J) Kohler, Madden.

The course investigates economic and social determinants of fertility, mortality, and migration, and it discusses the effects of population variables on economic and social conditions, including economic and social development. Topics discussed in the course include: How do economic changes affect marriage, divorce, and child bearing decisions? How do households make decisions about transfers and requests? How can economic and sociological approaches be combined in explanatory

models of demography change? How does immigration to the US affect the ethnic composition of the population, the earnings of native workers, taxes on natives, and the macro-economy? What causes the aging of populations, and how will population aging affect the economies of industrial nations, and in particular, pension programs like Social Security? What accounts for the rise

in women's participation in the wage labor force over the past century? How are family composition and poverty interrelated? Does rapid population growth slow economic development with low income countries? In addition to these topics, the course also covers selected methods not included in Dem/Soc 535/536 and 609.

999. Independent Study. (C) Staff.

Primarily for advanced students who work with individual instructors upon permission. Intended to go beyond existing graduate courses in the study of specific problems or theories or to provide work opportunities in areas not covered by existing courses.

DEPARTMENT OF MEDICAL ETHICS (MD) {MEDE}

Information about the Center for Bioethics and the Master's in Bioethics degree offered by the School of Medicine is available at <http://www.med.upenn.edu/mbe>. Courses are currently offered under the subject code BIOE.

L/R 282. (PSCI282) Lying, Cheating, Stealing, and Killing: How to Think About Professional Ethic.

Allen/Emanuel/Hirschmann/Strudler.

Professionals - in business, medicine, law, and politics - face myriad ethical dilemmas in their daily work life that challenge, and sometimes conflict with, the moral commitments that guide their everyday life. This course systematically examines the ethical dimensions of these four professional roles, asking questions such as: Are there limits to what we should sell? How far should competitors go to "win"? Who should get ventilators in a flu pandemic? Is it morally permissible for physicians to assist in suicide? Should lawyers represent terrorists or child killers? How far does attorney-client privilege go? Is it morally justifiable to torture enemy combatants? Should politicians lie?

401. (BIOE601) INTRO TO BIOETHICS. (A)

402. (BIOE602) CON. FOUND. OF BIOETHICS.

505. SEX AND BIOETHICS.

540. Challenging Clinical Ethics: Managing patient/caregiver conflicts through mediation. (M) Bergman.

Prerequisite(s): None.

The contemporary healthcare system in which patients, families, institutions and a multiplicity of caregivers interact over matters of life and death with legal, ethical, emotional and scientific complexities inherently gives rise to a variety of disputes. Such disputes are frequently highly charged and are often emergent in nature. In recent years, mediation has grown exponentially as a dispute resolution mechanism of choice. Not surprisingly, the success of mediation and a wider understanding of the process, has led to its application in the realm of healthcare disputes with encouraging results.

This course will initially provide an overview of classical mediation theory and practice. Students will be introduced to negotiation fundamentals critical to the

practice of mediation. Similarities and differences between mediation in the healthcare field, as distinct from other contexts, will be examined. All class members will participate in mediation role-plays designed to simulate disputes of the kind prevalent in healthcare landscape

SM 545. Mediation Intensive I. Edward J. Bergman, Autumn Fiester, Lance Wahlert. Prerequisite(s): There are no prerequisites for this course.

Students will be placed in a variety of clinical situations in which they will play the roles of disputants and mediators, with ongoing discussions and critiques of mediator performance. Each student will be videotaped during their mediation to elicit feedback from the group and to catalyze self-criticism. As distinct from the course, BIOE 540: Challenging Clinical Ethics, in which negotiation and mediation theory are taught as a prelude to clinical simulations, this course references the literature solely in relation to problems encountered in the hands-on mediation of specific cases.

Students may take the mediation intensives in any order; they do not need to be taken from I to IV. Students may take all 4 intensive courses, as the material will not be repeated.

SM 546. Mediation Intensive II. Edward J. Bergman, Autumn Fiester, Lance Wahlert. Prerequisite(s): There are no prerequisites for this course.

Students will have an immersion experience, learning mediation through role-playing simulations. Note that the format is similar to Mediation Intensive I, but the Mediation Intensive II will NOT duplicate simulations. Students in this course will: learn to effectively manage clinical disputes among and between caregivers, patients, and surrogates through mediation; discover how to define problems and assess underlying interests to generate mutually acceptable options; role play in a variety of clinical situations as both disputants and mediators; practice mediation with professional actors; and receive constructive feedback in a supportive environment. Students will also be required to complete a written research paper.

Students may take the mediation intensives in any order; they do not need to be taken from I to IV. Students may take all 4 intensive courses, as the material will not be repeated.

SM 547. Mediation Intensive III.

Edward J. Bergman, Autumn Fiester, Lance Wahlert.

Students will have an immersion experience, learning mediation through role-playing simulations. Note that the format is similar to Mediation Intensive I and II, but med. intensive III will NOT duplicate simulations. Students in this course will: learn to effectively manage clinical disputes among and between caregivers, patients, and surrogates through mediation; discover how to define problems and assess underlying interests to generate mutually acceptable options; role play in a variety of clinical situations as both disputants and mediators; practice mediation with professional actors; and receive constructive feedback in a supportive environment. Students will also be required to complete a written research paper.

Students may take the mediation intensives in any order; they do not need to be taken from I to IV. Students may take all 4 intensive courses, as the material will not be repeated.

SM 548. Mediation Intensive IV.

Edward J. Bergman, Autumn Fiester, Lance Wahlert. Prerequisite(s): None.

Students will have an immersion experience, learning mediation through role-playing simulations. Note that the format is similar to earlier mediation intensives but the mediation intensive IV will NOT duplicate simulations. Students in this course will: learn to effectively manage clinical disputes among and between caregivers, patients, and surrogates through mediation; discover how to define problems and assess underlying interests to generate mutually acceptable options; role play in a variety of clinical situations as both disputants and mediators; practice mediation with professional actors; use video-tapes of simulations to improve mediation techniques and strengthen interpersonal skills; receive constructive feedback in a supportive environment.

Students may take the mediation intensives in any order; they do not need to be taken from I to IV. Students may take all 4 intensive courses, as the material will not be repeated.

550. Bioethics and Society. (M)

MERZ, JON. This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: <http://www.med.upenn.edu/mbe>.

This set of courses will deal with bioethical issues in popular culture addressed from a social science perspective. Courses to be

offered include: "Sociology of Bioethics," and "Media and the Doctor-Patient Relationship."

551. Sociological Topics in Bioethics. (M) This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website:

<http://www.med.upenn.edu/mbe>.

This set of courses provides a rigorous introduction to the use of sociological methods and perspective to address bioethical topics and issues. Past courses have included the "Sociology of Medicine," "Medical Errors," and "Sociology of Jewish Bioethics."

552. Anthropological Topics in Bioethics. (M) This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website:

<http://www.med.upenn.edu/mbe>.

This set of courses provides an introduction to the use of anthropological methods and approaches to address bioethical issues. Courses might include cross-cultural studies of medicine and doctoring, diversity and the culture of medicine, cross-cultural bioethics.

SM 553. Historical Topics in Bioethics. (M) This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website:

<http://www.med.upenn.edu/mbe>.

This set of courses provides a historical perspective on the field of bioethics and/or key issues or areas within the field. Courses that might be offered include the history of medicine and the history of science.

554. Religious Topics in Bioethics. (M) This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: <http://www.med.upenn.edu/mbe>.

This set of courses examine the role of spirituality in the field of bioethics. Courses might be taught from a single religious perspective or provide an overview of many different perspectives. Past courses have included "Spirituality and Bioethics."

556. Evidence in Bioethics and Health Policy. (A) Maclean.

The ability to critically appraise scholarly work is a necessary skill to effectively contribute to bioethics and health policy debates, and for development and implementation of health interventions.

The object of this course is to provide students with the skills needed to become fluent in reading and assessment of empirical bioethics and health service research. The course will review and evaluate a wide range of qualitative and quantitative methods utilized in bioethics, health policy, and medical research. Specifically, students will learn the conceptual rationale for standard qualitative and quantitative methods, their strengths and weakness. At course completion, students should be able to critically evaluate empirical research published in top bioethics, health policy, and medical journals.

558. REPRODUCTIVE HEALTH.

560. Clinical Approaches to Bioethics. (M) This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: <http://www.med.upenn.edu/mbe>.

This set of courses examines issues in bioethics from the perspective of the practicing clinician, physician, nurse, or other health care professional. These courses will often use case studies or clinical experience to analyze or understand contemporary problems in bioethics. An example of such a course is "Clinical Dilemmas Through the Life Cycle."

L/R 565. Rationing. Ezekiel Emanuel, Harald Schmidt. Prerequisite(s): None.

You have one liver but three patients awaiting a liver transplant. Who should get the liver? What criteria should be used to select the recipient? Is it fair to give it to an alcoholic? These are some of the questions that arise in the context of rationing and allocating scarce health care resources among particular individuals, what is called micro-allocation decisions. There are also macro-allocation decisions that focus on how health care systems distributes resources across populations. Using the cases of organs for transplantation, the rationing for vaccines in a flu pandemic, and oncology drug shortages, the course will critically examine alternative theories for allocating scarce resources among individuals. Using both the need to establish priorities for global health aid and to define an essential benefit package for health insurance, the course will critically examine diverse theories for macro-allocation from cost-effectiveness analysis to age-based rationing to accountability for reasonableness.

570. Bioethics and Policy. (M) This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: <http://www.med.upenn.edu/mbe>.

This set of courses will look at bioethical topics from either a legal or public policy perspective. Past courses have included: Ethics of Managed Care, Law, Medicine and Policy, and Legal Aspects of Healthcare in America.

571. GLOBAL HEALTH POLICY.

572. GLOBAL BIOETHICS. (A)

575. (HCMG250, HCMG850) The Future of the American Health Care System: Health Policy and the Affordable Care Act. (A) Ezekiel Emanuel, J. Sanford Schwartz.

Prerequisite(s): None. Course open to graduate students and upper level undergraduates. Freshman and Sophomores may request permission to enroll. Email mbe-info@mail.med.upenn.edu.

This course will provide students a broad overview of the current U.S. healthcare system. The course will focus on the challenges facing the health care system, an in-depth understanding of the Affordable Care Act, and its potential impact upon health care access, delivery, cost, and quality.

The U.S. health care system is the world's largest, most technologically advanced, most expensive, with uneven quality, and an unsustainable cost structure. This multi-disciplinary course will explore the history and structure of the current American health care system and the impact of the Affordable Care Act. How did the United States get here? The course will examine the history of and problems with employment-based health insurance, the challenges surrounding access, cost and quality, and the medical malpractice conundrum. As the Affordable Care Act is implemented over the next decade, the U.S. will witness tremendous changes that will shape the American health care system for the next 50 years or more.

The course will examine potential reforms, including those offered by liberals and conservatives and information that can be extracted from health care systems in other developed countries. The second half of the course will explore key facets of the Affordable Care Act, including improving access to care and health insurance exchanges, improving quality and constraining costs through health care delivery system reforms, realigning capacity through changes in workforce and medical education, and potential impact on

biomedical and other innovation. The course will also examine the political context and process of passing major legislation in general and health care legislation in particular, including constitutional arguments surrounding the Affordable Care Act. Throughout lessons will integrate the disciplines of health economics, health and social policy, law and political science to elucidate key principles.

580. Research Ethics. (M) Merz.

This class is intended to give students a broad overview of research ethics and regulation. The students will come out of the class with an understanding of the moral bases of scientific ethics and the historical evolution of biomedical research ethics. Students will be fully conversant with the development, implementation, and limitation of US human subjects regulation. The course will include reading assignments and lectures addressing the following topics: ethics and morality in science, science in society; scientific integrity; misconduct: from FFP to MIM; conflicts of interest; collegiality, publication, and authorship; ethics codes and regulation; research with human subjects; historical review of human experimentation; human subjects regulation (HHS, FDA), Institutional Review Boards; informed consent, waivers, vulnerable populations, privacy and the confidentiality of records; and research on animals.

585. Ethics of Research in Vulnerable Populations.

Prerequisite(s): Either BIOE 580: Research Ethics or a short set of supplemental background reading.

This is an advanced seminar focused on human subjects research in resource-constrained regions of the world. Students are expected to have a grounding in US regulations and policies. The students will come out of the class with an appreciation for issues raised by research involving populations vulnerable to manipulation and exploitation, a sensitivity to cultural issues, and an awareness of methods for appropriately engaging communities and performing ethically sound research. The course includes reading assignments, lectures, case-based and discussions addressing topics ranging from social and anthropological research, vulnerability and exploitation, biomedical research, pharmaceutical sponsorship, traditional knowledge and biopiracy, and equity and access.

Grade will be based on 3 written case evaluations (70%) and class discussion and participation (30%).

590. Philosophical Topics in Bioethics. (M) This is a topics course - for information on the topic currently being offered, please go to the course listing on the Bioethics website: <http://www.med.upenn.edu/mbe>.

This set of courses provides a philosophical perspective on bioethical topics and issues. This can include courses that integrate ethical theory with concern for particular applications of theory or conceptual issues in medicine, health care, and the life sciences. Past courses have included Philosophy of Death and Dying, Genetics and Ethics, Philosophy of Medicine, Pragmatic Bioethics, and Feminism and Bioethics.

601. (BIOE401) Introduction to Clinical Bioethics. (A) Fiester.

This course is intended to serve as a broad introduction to the field of bioethics. The course will focus on three of the most important areas in bioethics: Genetics & Reproduction, Human Experimentation, and End-of-Life. Each module of the course will cover essential bioethics concepts, relevant legal cases, and classical readings of that theme. Each module will include one guest lecture from our distinguished bioethics faculty.

602. (BIOE402) Conceptual Foundations in Bioethics. (B)

This course examines the various theoretical approaches to bioethics and critically assesses their underpinnings. Topics to be covered include an examination of various versions of deontological theories, utilitarianism, virtue ethics, principlism, casuistry, feminist ethics, narrative theory, and pragmatism.

604. (BIOE504) Empirical Methods in Bioethics. (M)

This course provides an introduction to social science research design and methods for students interested in conducting research on issues in bioethics. The course is appropriate for students who, rather than conducting research themselves, will use research findings to make or challenge arguments in policy statements or other writings. Emphasis is placed on the logic of research design as the way to relate topic of inquiry with method so that evidence produced is pertinent and useful. Students will design research projects and explore a variety of methods available to conduct research. Students will also learn to integrate research ethics into the formulation and design of their inquiries.

605. MENTORED RESEARCH I.

606. MENTORED RESEARCH II.

607. MENTORED RESEARCH III.

608. MENTORED RESEARCH IV.

SM 688. Bioethics in China: Research, Industry, and Practice. Joe Powers. Prerequisite(s): None.

Course Objective: The intent of this course is to offer students a broad understanding of bioethical issues in China. Students will be challenged to consider whether there is a unique Chinese Ethic, or whether Chinese culture and practice can be understood as harmonized with Western values and morals. Specific topics include: Ethical considerations in outsourcing clinical trials to China; Pharmaceutical marketing practices in China; Physician-Patient interactions and the notions of autonomy; Ethics in health policy; Intellectual property and the regulatory landscape; Challenges in conducting business and research in China, including organizational practices and business Ethics. Course Format: Students will travel to Beijing, Nanjing and Shanghai where the program will include site visits, academic lectures, and meetings with policymakers, Chinese and expatriate business leaders and others. Visits to significant cultural sites will also be included. Class meetings will be held prior to and following the trip to China and will include distinguished guest speakers from the US and abroad.

Student Requirements/Evaluation: Students will be required to read all assigned articles and book chapters and to come to class sessions prepared for discussion. 25% of the course grade will be based on student participation in the breakfast journal club and guest presentations. Students will be required to write a 10-15 page research paper on some aspect of bioethics in China. This paper will count towards 50% of the final grade. Students will be asked to present their paper at the post-trip class, and this presentation will count for the remaining 25% of the course grade.

996. Research Topics. (C) This course is only open to students in the Master of Bioethics program.

This course serves the final MBE project. This course requires students to work with faculty to produce original research that is of publishable quality. Past students have published in Nature, Science, and other prominent journals.

999. Independent Study. (C) This course is only open to students in the Master of Bioethics program.

EARTH AND ENVIRONMENTAL SCIENCE (AS) {EESC}

150. (COML151, GRMN150) WATER WORLDS.

ENVIRONMENTAL STUDIES (ENVS)-----Note: Listings for GEOL follow ENVS 999

SM 073. (PHIL073) Topics in Ethics. (M) Meyer, M.

Topics vary each semester.

169. (STSC169) ENGINEERING PLANET EARTH.

181. (GRMN181) Comparative Cultures of Sustainability. (L) Simon Richter.

Sustainability is more than science, engineering, policy, and design. Surveying the world, we see that the politics and practice of sustainability play out in different ways depending on cultural factors. Some cultures are more prone to pursue ecological goals than others. Why? Do the environmental history and experience of a nation affect policy? Do nature and the environment play a crucial role in the cultural memory of a nation? Can cultural components be effectively leveraged in order to win approval for a politics of sustainability? And what can we, as residents of a country where climate change and global warming are flashpoints in an enduring culture war, learn from other cultures? This course is designed to equip undergraduate students with the historical and cultural tools necessary to understand the cultural aspects of sustainability in two countries noted for their ecological leadership and cultural innovation, Germany and the Netherlands.

L/R 200. Introduction to Environmental Earth Science. (C)

Physical World Sector. All classes. Plante.

This course will expose students to the principles that underlie our understanding of how the Earth works. The goal of Earth Systems Science is to obtain a scientific understanding of the entire Earth system by describing its component parts (lithosphere, hydrosphere, atmosphere, biosphere) and their interactions, and describe how they have evolved, how they function, and how they may be expected to respond to human activity. The challenge to Earth Systems Science is to develop the capability to predict those changes that will occur in the

next decade to century, both naturally and in response to human activity. Energy, both natural and human-generated, will be used as a unifying principle. Knowledge gained through this course will help students make informed decisions in all spheres of human activity: science, policy, economics, etc.

L/L 204. Global Climate Change. (A)

Physical World Sector. All classes. Irina Marinov. Prerequisite(s): Any of the following courses: ENVS 200 or GEOL 100 or GEOL 130 or GEOL 125 or GEOL 103 or Instructor Permission.

Public perceptions and attitudes concerning the causes and importance of global warming have changed. Global Climate Change provides a sound theoretical understanding of global warming through an appreciation of the Earth's climate system and how and why this has changed through time. We will describe progress in understanding of the human and natural drivers of climate change, climate processes and attribution, and estimates of projected future climate change. We will assess scientific, technical and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation.

SM 279. (STSC279) Nature's Nation: Americans and Their Environment. (M) Greene.

The United States has been described as "nature's nation." The presence of enormous, resource-rich and sparsely settled continent has been a component of American identity, prosperity and pride--it has even been described as the source of the democratic political system. From the beginning, Americans transformed their natural environment, even as, over time, they grew to value environmental preservation and protection. This course traces the interaction of Americans and the natural world in, studying how Americans changes the natural environment over time, in order to understand why environmental change occurred and occurred in the manner it did. What have Americans believed about the nature of the nation's nature, and what attitudes and policies have followed from these ideas? After surveying American environmental history from the 17th to the 20th century, we will examine specific topics and problems in the long relationship between Americans and their environment. (Possible topics: national parks and wilderness preservation, environmental politics, chemical pollution, invasive species). This seminar fulfills the research requirement for the History major

because students will complete a 20-page paper of original research.

295. Maritime Science and Technology: Woods Hole Sea Semester. (C)

Andrews. Prerequisite(s): Laboratory course in physical or biological science or its equivalent; college algebra or its equivalent. This set of courses requires special application procedures. Contact Maria Andrews for information and an application. Only the "SEA semester: Ocean Exploration" and "SEA Semester: Oceans and Climates" can be taken for Penn credit without taking a leave, and all students must have permission from Maria Andrews before registering at SEA.

A rigorous semester-length academic and practical experience leading to an understanding of the oceans. The Sea Semester is composed of two intensive six-week components taken off-campus. The Shore Component is six weeks at Woods Hole, Massachusetts, with formal study in: Oceanography, Maritime Studies, and Nautical Science. This is followed by six weeks aboard a sailing research vessel, during which students conduct oceanographic research projects as part of the courses, Practical Oceanography I and II.

Maritime Studies. A multidisciplinary study of the history, literature, and art of our maritime heritage, and the political and economic problems of contemporary maritime affairs.

Nautical Science. The technologies of operation at sea. Concepts of navigation, naval architecture, ship construction, marine engineering systems, and ship management are taught from their bases in physics, mathematics, and astronomy.

Practical Oceanography I. Taken aboard SSV Westward or SSV Corwith Cramer. Theories and problems raised in the shore component are tested in the practice of oceanography at sea. Students are introduced to the tools and techniques of the practicing oceanographer. During two lectures daily and while standing watch, students learn the operation of basic oceanographic equipment, the methodologies involved in the collection, reduction, and analysis of oceanographic data, and the attendant operations of a sailing oceanographic research vessel. Practical Oceanography II. Taken aboard SSV Westward or SSV Corwith Cramer. Students assume increasing responsibility for conducting oceanographic research and the attendant operations of the vessel. The individual student is responsible directly to the chief scientist and the master of the vessel for the safe and orderly conduct of research activities and related operation of

the vessel. Each student completes an individual oceanographic research project designed during the shore component.

299. Independent Study. (C) Staff. Prerequisite(s): Permission of department. May be repeated for credit.

Directed study for individuals or small groups under supervision of a faculty member.

301. Environmental Case Studies. (A) dmochowski. Prerequisite(s): ENV5 200.

A detailed, comprehensive investigation of selected environmental problems. Guest speakers from the government and industry will give their accounts of various environmental cases. Students will then present information on a case study of their choosing.

L/R 312. (ENV5640, PHYS314) Ocean-Atmosphere Dynamics and Implications for Future Climate Change. (B) Marinov. Prerequisite(s): MATH 114 or permission of the instructor.

This course covers the fundamentals of atmosphere and ocean dynamics, and aims to put these in the context of climate change in the 21st century. Large-scale atmospheric and oceanic circulation, the global energy balance, and the global hydrological cycle. We will introduce concepts of fluid dynamics and we will apply these to the vertical and horizontal motions in the atmosphere and ocean. Concepts covered include: hydrostatic law, buoyancy and convection, basic equations of fluid motions, Hadley and Ferrel cells in the atmosphere, thermohaline circulation, Sverdrup ocean flow, modes of climate variability (El-Nino, North Atlantic Oscillation, Southern Annular Mode). The course will incorporate student led discussions based on readings of the 2007 Intergovernmental Panel on Climate Change (IPCC) report and recent literature on climate change. Aimed at undergraduate or graduate students who have no prior knowledge of meteorology or oceanography or training in fluid mechanics. Previous background in calculus and/or introductory physics is helpful. This is a general course which spans many subdisciplines (fluid mechanics, atmospheric science, oceanography, hydrology).

325. Sustainable Goods. Hagan.

The study of sustainability-the long term viability of humans in harmony with the environment-has been identified as a critical issue for society and industry and is

evolving to examine how society should conduct itself in order to survive. This issue impacts the consumer goods that we use in our lives, the processes that are designed to make these goods, and the raw materials that we obtain to create these goods. The questions that we will examine will be: can these goods be obtained, made, and consumed in a fashion that allows the current quality of life to be maintained (or enhanced) for future generations? Can these processes be sustainable? A review of consumer goods is necessary as the starting point in order to understand the basic needs of people in society and why people consume goods as they do. Subsequently, each student will choose a product to examine in detail and will research the product for its impact with respect to natural resource selection, production, use, and disposal/reuse.

326. GIS: Mapping Places & Analyzing Spaces. KRISTA HEINLEN.

This course is a hands-on introduction to the concepts and capabilities of geographic information systems (GIS). Students will develop the skills necessary for carrying out basic GIS projects and for advanced GIS coursework. The class will focus on a broad range of functional and practical applications, ranging from environmental science and planning to land use history, social demography, and public health. By the end of the course, students will be able to find, organize, map, and analyze data using both vector (i.e. drawing-based) and raster (i.e. image-based) GIS tools, while developing an appreciation for basic cartographic principles relating to map presentation. This course fulfills the spatial analysis requirement for ENV5 and EASC Majors. Previous experience in the use of GIS is not required.

327. Principles of Sustainability. Alain Plante.

What is sustainability? Can any fundamental concepts, principles or framework be constructed that adequately describes the search for sustainability? Is there a meaningful methodology? Sustainability science is a trans-disciplinary approach in which the quantitative and qualitative, natural and social, and theory and practice are reconciled and creatively combined. The objective of this course is to provide an in-depth analysis of the foundational concepts, principles, processes and practices of sustainability science. The course will explore three foundational laws governing sustainability: the law of limits to growth, the second law of thermodynamics, and the law of self-organization. Students will examine how these laws operate in

biological, ecological, and physical systems, and then apply them to social, economic and political systems.

SM 399. (GEOL399) Environmental Studies Research Seminar for Juniors. (B) Dmochowski. Prerequisite(s): ENV5 200.

This seminar is designed to help Juniors prepare for the Senior Thesis research. Topic selection, advisor identification, funding options, and basic research methods will be discussed.

SM 400. Environmental Studies Seminar. (B) Plante. May be repeated for credit.

Application of student and faculty expertise to a specific environmental problem, chosen expressly for the seminar.

SM 404. (HSOC404) Urban Environments: Speaking About Lead in West Philadelphia. (B) Natural Science & Mathematics Sector. Class of 2010 and beyond. Pepino. ABCS Course. Requires community service in addition to class time.

Lead poisoning can cause learning disabilities, impaired hearing, behavioral problems, and at very high levels, seizures, coma and even death. Children up to the age of six are especially at risk because of their developing systems; they often ingest lead chips and dust while playing in their home and yards.

In ENV5 404, Penn undergraduates learn about the epidemiology of lead poisoning, the pathways of exposure, and methods for community outreach and education. Penn students collaborate with middle school and high school teachers in West Philadelphia to engage middle school children in exercises that apply environmental research relating to lead poisoning to their homes and neighborhoods.

SM 406. (HSOC406) Community Based Environmental Health. (A) Pepino. ABCS Course. Requires community service in addition to class time.

From the fall of the Roman Empire to Love Canal to the epidemics of asthma, childhood obesity and lead poisoning in West Philadelphia, the impact of the environment on health has been a continuous challenge to society. The environment can affect people's health more strongly than biological factors, medical care and lifestyle. The water we drink, the food we eat, the air we breathe, and the neighborhood we live in are all components of the environment that impact

our health. Some estimates, based on morbidity and mortality statistics, indicate that the impact of the environment on health is as high as 80%. These impacts are particularly significant in urban areas like West Philadelphia. Over the last 20 years, the field of environmental health has matured and expanded to become one of the most comprehensive and humanly relevant disciplines in science.

This course will examine not only the toxicity of physical agents, but also the effects on human health of lifestyle, social and economic factors, and the built environment. Topics include cancer clusters, water borne diseases, radon and lung cancer, lead poisoning, environmental tobacco smoke, respiratory diseases and obesity. Students will research the health impacts of classic industrial pollution case studies in the US. Class discussions will also include risk communication, community outreach and education, access to health care and impact on vulnerable populations. Each student will have the opportunity to focus on Public Health, Environmental Protection, Public Policy, and Environmental Education issues as they discuss approaches to mitigating environmental health risks.

This honors seminar will consist of lectures, guest speakers, readings, student presentations, discussions, research, and community service. The students will have two small research assignments including an Environmental and Health Policy Analysis and an Industrial Pollution Case Study Analysis. Both assignments will include class presentations. The major research assignment for the course will be a problem-oriented research paper and presentation on a topic related to community-based environmental health selected by the student. In this paper, the student must also devise practical recommendations for the problem based on their research.

SM 407. (HSOC407) Urban Environments: Prevention of Tobacco Smoking in Adolescents. (B) Pepino. ABCS Course. Requires community service in addition to class time.

Cigarette smoking is a major public health problem. The Centers for Disease Control and Prevention Control reports that more than 80% of current adult tobacco users started smoking before age 18. The National Youth Tobacco Survey indicated that 12.8% of middle school students and 34.8% of high school students in their study used some form of tobacco products.

In ENVS 407, Penn undergraduates learn about the short and long term

physiological consequences of smoking, social influences and peer norms regarding tobacco use, the effectiveness of cessation programs, tobacco advocacy and the impact of the tobacco settlement. Penn students will collaborate with teachers in West Philadelphia to prepare and deliver lessons to middle school students. The undergraduates will survey and evaluate middle school and Penn student smoking. One of the course goals is to raise awareness of the middle school children to prevent addiction to tobacco smoke during adolescence. Collaboration with the middle schools gives Penn students the opportunity to apply their study of the prevention of tobacco smoking to real world situations.

SM 408. (HSOC408) Urban Environments: The Urban Asthma Epidemic. (B) Pepino. ABCS Course. Requires community service in addition to class time.

Asthma as a pediatric chronic disease is undergoing a dramatic and unexplained increase. It has become the number one cause of public school absenteeism and now accounts for a significant number of childhood deaths each year in the USA. The Surgeon General of the United States has characterized childhood asthma as an epidemic. In ENVS 408, Penn undergraduates learn about the epidemiology of urban asthma, the debate about the probable causes of the current asthma crisis, and the nature and distribution of environmental factors that modern medicine describes as potential triggers of asthma episodes.

Penn students will collaborate with the Childrens Hospital of Philadelphia (CHOP) on a clinical research study entitled the Community Asthma Prevention Program. The Penn undergraduates will co-teach with CHOP parent educators asthma classes offered at community centers in Southwest, West, and North Philadelphia. The CHOP study gives the Penn students the opportunity to apply their study of the urban asthma epidemic to real world situations.

SM 410. Clean Water - Green Cities. (M) Neukrug. Prerequisite(s): ENVS 200, GEOL 100 or equivalent. An academically-based curriculum service learning approach to using water, science and politics to create a sustainable Philadelphia.

This course will provide an overview of the cross-disciplinary fields of civil engineering, environmental sciences, urban hydrology, landscape architecture, green building, public outreach and politics. Students will be expected to conduct field investigations, review scientific data and

create indicator reports, working with stakeholders and presenting the results at an annual symposium. There is no metaphor like water itself to describe the cumulative effects of our practices, with every upstream action having an impact downstream. In our urban environment, too often we find degraded streams filled with trash, silt, weeds and dilapidated structures. The water may look clean, but is it? We blame others, but the condition of the creeks is directly related to how we manage our water resources and our land. In cities, these resources are often our homes, our streets and our communities. This course will define the current issues of the urban ecosystem and how we move toward managing this system in a sustainable manner. We will gain an understanding of the dynamic, reciprocal relationship between practices in an watershed and its waterfront. Topics discussed include: drinking water quality and protection, green infrastructure, urban impacts of climate change, watershed monitoring, public education, creating strategies and more.

SM 411. Air Pollution: Sources & Effects in Urban Environments. (A) Andrews and Howarth.

This is an ABCS course designed to provide the student with an understanding of air pollution at the local, regional and global levels. The nature, composition, and properties of air pollutants in the atmosphere will also be studied. The course will focus on Philadelphia's air quality and how air pollutants have an adverse effect on the health of the residents. The recent designation by IARC of Air Pollution as a known carcinogen will be explored. How the community is exposed to air pollutants with consideration of vulnerable populations will be considered. Through a partnership with Philadelphia Air Management Service (AMS) agency the science of air monitoring and trends over time will be explored. Philadelphia's current non-attainment status for PM2.5 and ozone will be studied. Philadelphia's current initiatives to improve the air quality of the city will be discussed. Students will learn to measure PM2.5 in outdoor and indoor settings and develop community-based outreach tools to effectively inform the community of Philadelphia regarding air pollution. The outreach tools developed by students may be presentations, written materials, apps, websites or other strategies for enhancing environmental health literacy of the community. A project based approach will be used to include student monitoring of area

schools, school bus routes, and the community at large. The data collected will be presented to students in the partner elementary school in West Philadelphia. Upon completion of this course, students should expect to have attained a broad understanding of and familiarity with the sources, fate, and the environmental impacts and health effects of air pollutants.

416. (BIOL415) Freshwater Ecology. (M) Bott. Prerequisite(s): BIOL 101 or 121 and one semester of college chemistry.

Survey of the physical, chemical and biological properties of freshwater ecosystems, both riverine and lentic, natural and polluted.

SM 463. (ENVS643, URBS463, URBS663) The Historical, Scientific, & Policy Dimensions of "Brownfields". (M) Keene. Offered through LPS - See current timetable.

This course gives an overview of the genesis of the so-called "Brownfield" problem and of the various efforts that our society is taking to try to solve, or at least ameliorate it. The course will place the "Brownfield" problem in the broader context of the growth and decline of industrial base cities like Philadelphia. Students will study the general constitutional and statutory framework within which we approach the problems of orphan, polluted sites and the disposal of contemporary solid wastes. They will also analyze the principal actions that have been taken by federal and state governments to address remediation and redevelopment of abandoned industrial sites. In addition, the course will explore environmental equity issues.

498. (GEOL498) Senior Thesis. (F) Giegengack. Prerequisite(s): ENVS 400-level course and declaration of the ENVS major. The Environmental Studies major, as of the fall of 2008, requires 1 semester of ENVS399 and two semesters of ENVS498.

The culmination of the Environmental Studies major. Students, while working with an advisor in their concentration, conduct research and write a thesis.

507. Wetlands. (M) Willig.

The course focuses on the natural history of different wetland types including climate, geology, and hydrology factors that influence wetland development. Associated soil, vegetation, and wildlife characteristics and key ecological processes will be covered as well. Lectures will be supplemented with weekend wetland types, ranging from tidal salt marshes to non-tidal marshes, swamps, and glacial bogs in order

to provide field experience in wetland identification, characterization, and functional assessment. Outside speakers will discuss issues in wetland seed bank ecology, federal regulation, and mitigation. Students will present a short paper on the ecology of a wetland animal and a longer term paper on a selected wetland topic. Readings from the text, assorted journal papers, government technical documents, and book excerpts will provide a broad overview of the multifaceted field of wetland study.

541. Modeling Geographical Objects. (M) Tomlin.

This course offers a broad and practical introduction to the acquisition, storage, retrieval, maintenance, use, and presentation of digital cartographic data with both image and drawing based geographic information systems (GIS) for a variety of environmental science, planning, and management applications. Its major objectives are to provide the training necessary to make productive use of at least two well known software packages, and to establish the conceptual foundation on which to build further skills and knowledge in late practice.

SM 601. Proseminar: Contemporary Issues in Environmental Studies. (M) Bordeaux/Colijn.

A detailed, comprehensive investigation of selected environmental problems. This is the first course taken by students entering the Master of Environmental Studies Program.

604. Conservation and Land Management. (M) Brightman. Some Saturday field trips will be required.

Using protected lands in the Delaware Valley, this field-based course will explore various strategies for open-space conservation and protection. In addition, students will be introduced to land management techniques used on such sites to restore or preserve land trust properties in accordance with goals set for their use or protection. Sustainable land uses such as community supported agriculture, ecovillages, and permaculture design will be covered. Emphasis will be placed on developing skills in "Reading the Landscape" to determine conservation and restoration priorities. Students will produce a site assessment report on sites that they visit.

605. (ENVS305) BIOREMEDIATION. (M) Vann.

This course is an introduction to current and developing techniques for analyzing

environmental contamination and for remediation of damaged environments. Knowledge of these options is important for students interested in public/law applications and environmental/landscape design and as a starting point for those pursuing a more science-oriented understanding. The first portion of this course will address bioindicators-the use of living systems to assess environmental contamination. These include systems ranging from biochemical assays to monitoring of whole organisms or ecosystems, as well as techniques ranging from laboratory to field and satellite surveys. The second portion of the course will introduce technologies for bioremediation- the use of living systems to restore contaminated environments. The technologies scale from single-species systems to complex ecosystems such as constructed wetlands; case studies will be examined. Students will be expected to participate in field trips, as well as prepare a final paper examining a particular technology in detail.

SM 606. Ornithology. (A) McGraw.

This class will explore the foundations of avifaunal biology and ecology using a combination of hands-on classroom and in-the-field experiences. Classroom content includes physiology, anatomy, and morphology of birds. The fall migration of birds in North America is an epic and often tragic event. Sampling birds in migration has resulted in foundational understandings about stopover habitats, species-specific energy budgets and has helped realize the complete life cycle of hundreds of species. We will enter the field and participate in actual ornithological research, explore avifaunal ecology through birdwatching, and meet with regional leaders in the ornithological field.

610. Regional Field Ecology. (L) Willig. Some Sunday field trips required.

Over the course of six Sunday field trips, we will travel from the barrier islands along the Atlantic Ocean in southern New Jersey to the Pocono Mountains in northeastern Pennsylvania, visiting representative sites of the diverse landscapes in the region along the way. At each site we will study and consider interactions between geology, topography, hydrology, soils, vegetation, wildlife, and disturbance. Students will summarize field trip data in a weekly site report. Evening class meetings will provide the opportunity to review field trips and reports and preview upcoming trips. Six all-day Sunday field trips are required.

SM 611. Environmental Law. (B)

Keene.

This course will provide an introduction to environmental law and the legal process by which environmental laws are implemented and enforced. The course will examine the common law roots of environmental regulation in tort principles such as nuisance, negligence and trespass. We will examine important Constitutional principles in substantive and procedural law as well as significant environmental laws and approaches. Finally, we will examine emerging theories of citizen's rights and the government's role in environmental law and regulation. Students will learn how to read and analyze course decisions and apply some of the elements of legal thinking to actual cases and current problems.

SM 615. Climate Change & Health.**(M)** Staff.

Main causes of climate change and direct consequences on air temperature, weather patterns, glacial melting, sea level, air and water quality, water and food supply, natural disasters, and ecosystems; how climate change can affect health in different ways, and how certain groups of people are more vulnerable to health impacts.

SM 616. Risk Assessment: Science & Policy Challenges. (L)

Pepino.

How do government policy-makers make decisions about potential threats to human health and the environment in the face of scientific uncertainty? The course develops the concept of Risk Assessment from the publication of the 1983 National Research Council (NRC) report commonly known as the "Red Book" which was used to rank the initial hazardous waste sites under the Superfund program. Using a variety of teaching tools, including lectures, panel discussions, and case studies, the course examines how public policy decisions regarding environmental risk are made and how effective those decisions are at reducing risks to affected populations. The course focuses on the complex interaction of science, economics, politics, laws, and regulations in dealing with environmental and public health risks. The course will begin with a review of the policy process and methods used in evaluating human health and environmental risks, including the traditional steps in the risk assessment process, including quantitative and qualitative aspects of hazard identification, dose-response assessment, exposure assessment, and risk characterization.

The course will then focus on how scientific uncertainty, risk perceptions, socio-economic disparities, risk

communication, and politics influence environmental risk-based decision-making. Issues such as special populations (e.g., children, elderly, immune-compromised, woman of pregnancy age, etc.) must be considered when developing risk reduction strategies. The use of the "precautionary principle" will be discussed in the context of different types of environmental stressors (e.g., pesticides, chemicals, climate change, air pollution, water quality, and land use) and how this important controversial principle is applied differently in contrasting national and European risk management policies.

SM 621. Comparative Environmental Regulation. (B)

Hagan.

In order to guide organizations and companies in an aligned fashion on environmental and sustainability issues, we need to understand the specific approaches that governments take in regulating environmental issues and the underpinning philosophies that drive these regulatory frameworks. This course will therefore require an evaluation of the different tools that governments have to influence, guide and command environmental outcomes from different segments of society. We will specifically examine the environmental regulatory approaches in a number of countries such as the United States, the European Union, China, India and Brazil.

SM 622. Environmental Enforcement.**(A)** Lisa.

The goal of the course is to provide students with an introduction to the role of enforcement in federal, state and local environmental regulatory programs. Emphasis will be placed on federal enforcement actions initiated by the U.S. Environmental Protection Agency and U.S. Department of Justice. The course will provide students with an introduction to the American Legal System and legal concepts, like standing, jurisdiction, and burden of proof. A number of case studies and classroom exercises will be utilized as part of the discussion of civil and criminal enforcement actions. For example, a detailed case study will be presented concerning a successful prosecution by the federal government of a wastewater treatment plant operator (from the receipt of the initial tip through the sentencing of the defendant). A theme of all classes, presentations and assignments will be the role of the environmental professional in the enforcement context (e.g., the environmental professional who testifies as an expert in a judicial proceeding, or performs an audit that becomes the subject of a self-disclosure to EPA).

SM 623. Climate Change and Security. (A)

Thomas.

Climate change is increasingly presented as posing significant security risks, but the relationship is much more complex than such a simple cause-effect statement might suggest. Researchers from diverse fields including geography, climatology, and political science are actively engaging questions about what kinds of security are threatened by climate change and through what mechanisms. For example, will severe drought lead to violent conflict? Who is vulnerable to reduced soil moisture or increased coastal erosion and why? What are the consequences of viewing a problem as a livelihood versus national security risk? Who are the winners and losers of climate change-based security interventions? This course will orient students to the evolving debate on the relationship between climate change and its impacts on national, human, and environmental security.

SM 627. The Politics of Water. (B)

Thomas.

Despite decades of scientific research and policy action aimed at managing water resources equitably and sustainably, it remains that the world's water resources continue to be severely polluted, pose grave hazards to lives and infrastructure, and be obstinately unevenly distributed in space and time. Moreover, a growing number of people (currently estimated at over 700 million) lack sufficient quantities of clean water. Although such challenges have long been approached with technical expertise (e.g. hydro-engineering, economic models), this course examines the social and political dynamics that underpin these problems. Organized as a survey of problems and responses, this seminar examines key concepts, major approaches, and current debates regarding water governance in various regions of the world. Course topics include the privatization of water, water as a human right, and human vulnerability to water hazards. In viewing water provision and management as not solely a technical concern but as inherently political, the course seeks to provide a set of analytical tools that is both critical and constructive.

SM 629. The US Water Industry in the 21st Century. (A)

Neukrug.

The course will explore all 4 sectors of the water business in the United States: The Drinking Water Industry, The Stormwater Utility, Water Resources (rivers, streams, reservoirs) Management and the Water Pollution Control Industry. The course will have 2 primary foci: 1. The influences on the industry from new technologies and

infrastructure, acceptable levels of risk, public and private sector competition, climate change, the bottled water industry, resource recovery, rates and affordability and other influences will be investigated. 2. The management of a 21st century utility will be explored, including topics of organization and leadership, the role of environmentalism, infrastructure financing, water / wastewater treatment facility operations, public affairs and media, and designing a capital improvement program are examples of topic areas.

SM 642. Global Water Conference in Stockholm, Sweden. (L) Laskowski.

The global water and sanitation crisis kills over 4,000 children each day and represents one of the biggest health problems in the world. At the University of Pennsylvania school year 2010-2011 was declared the "Year of Water" in recognition of the many challenges that lie ahead as global increases in population and affluence and the influences of climate change will stress limited water resources. Each year the Stockholm International Water Institute convenes a Conference with experts from around the globe to exchange the latest water research findings and develop new networks. Students will attend the Conference, present research by presentations/posters, document a key issue, interview experts, and meet colleagues with common interests. They will also help other organizations at the Conference.

SM 643. (ENVS463) The Historical, Scientific, & Policy Dimensions of "Brownfields". (M) Keene.

This course is intended to give students an overview of the genesis of the so-called "Brownfield" problem and of the various efforts our society is taking to solve or, at least, ameliorate it. The course will place the "Brownfield" problem in the broader context of the growth and decline of the industrial base of cities like Philadelphia. Students will study the general constitutional and statutory framework within which we approach the problems of orphan, polluted sites and the disposal of contemporary solid wastes. They will also analyze the principal actions that have been taken by Federal and state government to address remediation and redevelopment of abandoned industrial sites. The course will also explore environmental equity issues.

The students will collaborate with high school students at the West Philadelphia High School to identify sites in their neighborhoods and to learn how to determine the sites ownership and land use history. The students will study ways of

determining environmental risk and the various options that are available for remediation in light of community ideas about re-use. Students will be expected to participate actively in the seminar and the sessions with high school students. Students in the course are required to prepare and present a term paper on a topic in the general area of "Brownfield" analysis and remediation.

SM 644. Energy, Waste and the Environment. (B) Giere.

The aim of this course is to provide an incentive to use geochemical and mineralogical principles to address and solve major environmental problems. The students identify the problems that are associated with different types of waste. This course covers a wide range of problems associated with the waste arising from the generation of electricity. The main topics will be the uranium cycle, characterization of nuclear waste, and the containment and disposal of nuclear waste. Based on insights from the nuclear fuel cycle, solutions are presented that diminish the environmental impacts of coal and biomass combustion products, incineration of municipal solid waste, toxic waste due to refuse incineration, and landfills and landfill gases.

SM 674. Life Cycle Assessment. (A) Hagan/English. Prerequisite(s): ENVS 667 Introduction to Sustainability or the approval of the instructors.

In order to make sensible decisions on products or projects, people need to understand the environmental impacts of these actions. Life cycle assessment (LCA) is a process to assess environmental impacts throughout the different stages of a product or project's life. This seminar is intended to be comprehensive and covers material extraction, processing, manufacture, distribution, use and end of life reuse, recovery or disposal. The objective of conducting an LCA is to compare the full range of environmental impacts that emanate from the provision of these products or services and then use that information to improve the situation to minimize or eliminate harm. The focus of this class will be to understand the phases of an LCA as well as conduct LCAs that compare the impacts of two related options. This course will enable the student to conduct LCAs and examine the use of software that could be used in this regard. The classic examples are cloth vs. disposable diapers, paper vs. ceramic cups, and so on. This course will enable the student to conduct LCAs and examine the

use of software that could be used in this regard.

681. Modeling Geographical Space. (M) Tomlin.

This course explores the nature and use of digital geographic information systems (GIS) for the analysis and synthesis of spatial patterns and processes through 'cartographic modeling'. Cartographic modeling is a general but well defined methodology that can be used to address a wide variety of analytical mapping applications in a clear and consistent manner. It does so by decomposing both data and data-processing tasks into elemental components that can then be recomposed with relative ease and with great flexibility.

699. (GEOL699) Masters of Environmental Studies Capstone Seminar. (C) Bordeaux. Project proposal and Online Application required for course registration. See MES Office and "Guide to the Capstone" for more information.

This course is designed to help students successfully complete their MES Capstone. A set of milestones will be set and regular meetings will be held in groups and individually to aid the student as they complete the research portion of their degree. We will be working together to complete a series of steps towards the final project. These steps fall into five major areas 1) Reviewing the literature; 2) Finding a model; 3) Framing your research; 4) managing data; and 5) Writing your results. Throughout the semester, we will also discuss career goals and the job search.

999. Independent Study. (C) Staff. Permission of instructor required.

Directed study for individuals or small groups under supervision of a faculty member.

GEOLOGY (GEOL)

SM 096. Field Approaches to Understanding the Earth & Environmental Science. (A) Scatena.

Corequisite(s): GEOL 100 or GEOL 109 highly recommended. This is a field based course. Weekend fieldtrips are required.

Understanding landscapes and the relationships between the natural world and society is fundamental to the natural sciences, architecture, medicine and public health, real estate and finance, urban studies and a range of other disciplines. The primary goal of this course is to expose students to the science of reading landscapes and disciplines that are founded in observation and hypothesis testing in the

field. In addition, the course will orient incoming students to the physical environment in which they will be living while they are at Penn.

The course will be centered around lectures and discussions that are based on ten or more field trips that will take place on weekends and afternoons throughout the semester. The trips will be led by faculty members and will cover topics of plate tectonics, bedrock and surficial geology, geomorphology, hydrology, environmental geology, pollution and field ecology.

L/R 100. Introduction to Geology. (A) Physical World Sector. All classes. Omar. Field trips required.

An introduction to processes and forces that form the surface and the interior of the Earth. Topics include, changes in climate, the history of life, as well as earth resources and their uses.

L/R 103. Natural Disturbances and Human Disasters. (A) Physical World Sector. All classes. Scatena.

Natural disturbances play a fundamental role in sculpturing landscapes and structuring natural and human-based ecosystems. This course explores the natural and social science of disturbances by analyzing their geologic causes, their ecological and social consequences, and the role of human behavior in disaster reduction and mitigation. Volcanoes, earthquakes, floods, droughts, fires, and extraterrestrial impacts are analyzed and compared.

L/L 109. Introduction to Geotechnical Science. (A) Physical World Sector. All classes. Omar.

Open to architectural and engineering majors as well as Ben Franklin Scholars. Field trips. Relations of rocks, rock structures, soils, ground water, and geologic agents to architectural, engineering, and land-use problems.

111. Geology Laboratory. (C) Omar. Prerequisite(s): GEOL 100 preferably taken concurrently. Field trips required.

Hands-on study of earth materials and processes. Identification and interpretation of rocks, minerals and fossils. Topographic and geologic maps. Evolution of landscapes. Field trips lead to a synthesis of the geologic history of southeastern Pennsylvania.

L/R 125. Earth and Life Through Time. (C) Physical World Sector. All classes. Willingbring.

Origin of Earth, continents, and life. Continental movements, changing climates, and evolving life.

L/R 130. Oceanography. (B) Physical World Sector. All classes. Dmochowski.

The oceans cover over 2/3 of the Earth's surface. This course introduces basic oceanographic concepts such as plate tectonics, marine sediments, physical and chemical properties of seawater, ocean circulation, air-sea interactions, waves, tides, nutrient cycles in the ocean, biology of the oceans, and environmental issues related to the marine environment.

L/L 201. (GEOL521, GEOL531) Mineralogy. (A) Omar. Prerequisite(s): GEOL 100 and CHEM 001 or 101.

Crystallography, representative minerals, their chemical and physical properties. Use of petrographic microscope in identifying common rock-forming minerals in thin section.

L/L 205. (GEOL405) Paleontology. (B) Living World Sector. All classes. Sallan. Two field trips required.

Geologic history of invertebrates and their inferred life habits, paleoecology, and evolution. Introduction to paleobotany and vertebrate paleontology.

L/L 206. (GEOL506) Stratigraphy. (A) Jerolmack. Prerequisite(s): GEOL 100 or permission of instructor. Two field trips, field project.

Introductory sedimentary concepts, stratigraphic principles, depositional environments, and interpretation of the rock record in a paleoecological setting.

L/L 208. (GEOL630) Structural Geology. (B) Phipps. Prerequisite(s): GEOL 100 and 111; PHYS 150 strongly recommended. Three field trips required.

Introduction to deformation as a fundamental geologic process. Stress and strain; rock mechanics. Definition, measurement, geometrical and statistical analysis, and interpretation of structural features. Structural problems in the field. Maps, cross-sections, and three-dimensional visualization; regional structural geology.

299. Independent Study. (C) Staff. Prerequisite(s): Permission of department. May be repeated for credit.

Directed study for individuals or small groups under close supervision of a faculty member.

305. (GEOL545) Earth Surface Processes. (B) Physical World Sector. All classes. Jerolmack. Prerequisite(s): ENVS 200, GEOL 100, or permission of the instructor. This course includes two required weekend field trips, and a hands-on laboratory.

Patterns on the Earth's surface arise due to the transport of sediment by water and wind, with energy that is supplied by climate and tectonic deformation of the solid Earth. This course presents a treatment of the processes of erosion and deposition that shape landscapes. Emphasis will be placed on using simple physical principles as a tool for (a) understanding landscape patterns including drainage networks, river channels and deltas, desert dunes, and submarine channels, (b) reconstructing past environmental conditions using the sedimentary record, and (c) the management of rivers and landscapes under present and future climate scenarios. The course will conclude with a critical assessment of landscape evolution on other planets, including Mars.

L/L 317. (GEOL417) Petrology and Petrography. (B) Omar. Prerequisite(s): GEOL 201. Two field trips.

Occurrences and origins of igneous and metamorphic rocks; phase equilibria in heterogeneous systems. Laboratory study of rocks and thin sections as a tool in interpretation of petrogenesis.

318. Glaciers, Ice & Climate. Goldsby. Prerequisite(s): Students should have basic knowledge of Calculus. MATH 114 or equivalent.

All forms of frozen water at Earth's surface define the cryosphere. These icy environments are an integral part of the global climate system, with important linkages and feedbacks resulting from their influences on surface energy and moisture fluxes, clouds, precipitation, hydrology, and circulation in the atmosphere and oceans. This course will survey the various components of the cryosphere and their interactions with climate, with a strong emphasis on the dynamics of glaciers and ice sheets. Broad topics to be covered are 1) the rudimentary mechanics of glacier and ice sheet flow, 2) fast-flowing ice streams and factors limiting their motion, 3) ice-quakes and their origins, 4) the nature of

climate data recorded in natural ice bodies, 5) the influence of climate on the stability of ice sheets and glaciers, and 6) glacier-like flow on other planetary bodies. This will be a lecture-based course with written assignments and problems sets.

L/L 405. (GEOL205) Advanced Paleontology. (A) Sallan. Prerequisite(s): Permission of instructor.

Relationship of fossil assemblages to life assemblages; structure of ancient communities, and interaction of organisms with each other and with the physical environment; evolution of communities.

SM 409. (GEOL509) Intro to Remote Sensing. Dmochowski. Prerequisite(s): PHYS151 and MATH114 or equivalent are preferable, but not required. See instructor.

This course will introduce students to the principles of remote sensing, characteristics of remote sensors, and remote sensing applications. Image acquisition, data collection in the electromagnetic spectrum, and data set manipulations for earth and environmental science applications will be emphasized. We will cover fundamental knowledge of the physics of remote sensing; aerial photographic techniques; multispectral, hyperspectral, thermal, and other image analysis. Students will pursue an independent research project using remote sensing tools, and at the end of the semester should have a good understanding and the basic skills of remote sensing.

411. Intro Soil Science. Plante. Prerequisite(s): GEOL 100 or equivalent.

Soil is considered the "skin of the Earth", with interfaces between the lithosphere, hydrosphere, atmosphere, and biosphere. It is a mixture of minerals, organic matter, gases, liquids and a myriad of organisms that can support plant life. As such, soil is a natural body that exists as part of the environment. This course will examine the nature, properties, formation and environmental functions of soil.

L/L 417. (GEOL317) Advanced Petrology. (A) Omar. Prerequisite(s): GEOL 317.

Chemistry, physics, phase equilibria, microscope study in igneous and metamorphic petrology.

418. Geochemistry. (M) Giere.

This course provides a comprehensive introduction to theory and applications of chemistry in the earth and environmental sciences. Theory covered will include atomic structure, chemical bonding, cosmic abundances, nucleosynthesis, radioactive

decay, dating of geological materials, stable isotopes, acid-base equilibria, salts and solutions, and oxidation-reduction reactions. Applications will emphasize oceanography, atmospheric sciences and environmental chemistry, as well as other topics depending on the interests of the class. Although we will review the basics, this course is intended to supplement, rather than to replace, courses offered in the Department of Chemistry. It is appropriate for advanced undergraduate as well as graduate students in Geology, Environmental Science, Chemistry and other sciences, who wish to have a better understanding of these important chemical processes.

420. Introduction to Geophysics. (M) Goldsby. Prerequisite(s): GEOL 100 or 109, two semesters Math and Physics, and/or instructor's permission.

This course will cover the application of geophysical investigation techniques to problems of the earth's planetary structure, local subsurface structure and mineral prospecting. The topics will include principles of geophysical measurements and interpretation with emphasis on gravity measurement, isostasy, geomagnetism, seismic refraction and reflection, electrical prospecting, electromagnetics and ground radar.

L/L 421. (GEOL541) Elemental Cycling in Global Systems. (B) Plante. Prerequisite(s): ENVS 200, GEOL 100, or permission of the instructor.

Humans have an enormous impact on the global movement of chemical materials. Biogeochemistry has grown to be the principal scientific discipline to examine the flow of elements through the global earth systems and to examine human impacts on the global environment. This course will introduce and investigate processes and factor controlling the biogeochemical cycles of elements with and between the hydrosphere, lithosphere, atmosphere and biosphere. Students will apply principles learned in lectures by building simple computer-based biogeochemical models.

422. (GEOL622) RATES AND DATES. (C)

423. (GEOL623) ADV COSMOGENIC NUCLIDES. (C)

477. Introduction to Vertebrate Paleontology. (M) Dodson. Prerequisite(s): GEOL 100, BIOL101, GEOL205 or similar course.

498. (ENVS498) Senior Thesis. (F) Giegengack. Prerequisite(s): GEOL400-level and declaration of the EASC major. The Earth Science major, as of the fall of 2008, requires 1 semester of GEOL399 and two semesters of GEOL498.

The culmination of the Earth Science major. Students, while working with an advisor in their concentration, conduct research and write a thesis.

503. Earth Systems and Earth Hazards. (B) Phipps. Prerequisite(s): Geology 100 (introductory physical geology,) or permission of the instructor. The course is intended for Masters' students in Environmental Studies and Applied Geology, as well as upperclass geology majors.

This course will examine the hazards that arise from living on an active planet from a large-scale systems standpoint. We will briefly survey the Earth's major systems, emphasizing energy generation, storage, and flow within the Earth, and then proceed to an examination of the hazards that result. This will include earthquakes and tsunamis, volcanic eruptions, river and coastal flooding, and hurricanes, tornadoes, and other major storms. We will touch briefly on global warming and other current topics.

SM 508. The Geology and Geography of Energy Resources. (M) Phipps. Prerequisite(s): Geol100 or equivalent is preferred. Possible field trips.

This course will survey the way geology controls the formation and location of energy resources. Questions we'll address include, "How are oil and gas fields formed?", "Why does the Middle East have so much oil?", "What are the best locations in the US for wind and solar energy generation, and why?". We will discuss hydrocarbon, nuclear, solar, wind, and tidal energy sources.

SM 509. (GEOL409) Intro to Remote Sensing. Dmochowski. Prerequisite(s): PHYS151 and MATH114 or equivalent are preferable, but not required. See instructor.

This course will introduce graduate students to the principles of remote sensing, characteristics of remote sensors, and remote sensing applications. Image acquisition, data collection in the electromagnetic spectrum, and data set manipulations for earth and environmental science applications will be emphasized. We will cover fundamental knowledge of the physics of remote sensing; aerial photographic techniques; multispectral, hyperspectral, thermal, and other image analysis. Students will pursue an independent research project using remote

sensing tools, and at the end of the semester should have a good understanding and the basic skills of remote sensing. Expectations for the graduate student independent research projects will be at the graduate level and can relate to their capstone or Ph.D. thesis research topics.

510. Geophysical Fluid Dynamics.

Nathan Paldor. Prerequisite(s): Math 114 or equivalent or permission by the instructor.

This class will discuss physical principles fundamental to the theoretical, observational, and experimental study of geophysical fluids, the equations of motion for rotating fluids; hydrostatic and Boussinesq approximations; circulation theorem; conservation of potential vorticity; scale analysis, geostrophic wind, quasigeostrophic system; wave theory and applications, flow instabilities, geophysical boundary layers. Depending on student interest, the class will be adapted to include applications from Oceanography, Meteorology, Geophysics or Engineering.

L/L 511. Soil Science w Lab. (A)

Plante. Prerequisite(s): GEOL 100 or equivalent. Field trips.

Soil is considered the "skin of the earth", with interfaces between the lithosphere, hydrosphere, atmosphere, and biosphere. It is the mixture of minerals, organic matter, gases, liquids and a myriad of organisms that can support plant life. As such, soil is a natural body that exists as part of the environment. This course will examine the nature, properties, formation and environmental functions of soil. In addition to lectures, the course includes biweekly labs or field trips, and a multi-day field trip to held during Spring Break.

SM 515. Evolution/Revolution of Land Ecosystems. (M)

PFEFFERKORN.

Origin and diversification of land ecosystems. Interaction between plants and animals. Effects of past climatic change and other external factors. The importance of past changes in land ecosystems to our understanding of current global change.

L/L 521. (GEOL201, GEOL531) Mineralogy of Rock Preservation. (A)

Omar. Graduate School of Fine Arts students only.

Advanced crystallography, representative minerals, their chemical and physical properties, with emphasis on building stone preservation. Use of petrographic microscope in identifying common rock-forming minerals in thin section.

SM 527. APPLIED TECH IN PALEONTO. (B)

528. Aqueous Geochemistry. (M)

Andrews. Prerequisite(s): GEOL 100 Intro to Geology or permission of instructor.

Chemical composition and interactions of soils and soil water with applications to current problems.

L/L 531. (GEOL201, GEOL521) Advanced Mineralogy. (A) Omar.

Advanced crystallography, representative minerals, their chemical and physical properties. Use of petrographic microscope in identifying common rock-forming minerals in thin section.

540. Geotectonics. (M) Phipps.

Prerequisite(s): GEOL 205, 206, 208, 317 and 420, or permission of instructor. Field trip.

Bulk structure of the Earth. Plate tectonics and plate boundaries. Plumes, rifting, and intraplate tectonics. Geotectonics and seismicity.

541. (GEOL421) Elem Cycling in Global. (B)

599. Independent Study. (C) Staff.

Directed study for individuals or small groups under supervision of a faculty member.

SM 603. LUQUILLO CZ RES SEM. (M)

604. Geostatistical Analysis. (A)

Vann. Prerequisite(s): STAT 101 or equivalent statistics course; BioL 556 suggested or other Inferential Statistics courses, covering uni- and multi-variate techniques.

Univariate and multivariate approaches to the analysis of spatial correlation and variability. Many disciplines, including geology, ecology and the environmental sciences regularly need to analyze and make predictions from data that is spatially autocorrelated. Mine reserve estimation, pollutant dispersal and the use of randomization tests in ecology are examples of where spatial statistics may be applied.

SM 606. TOPICS IN SED PETR. (M)

SM 611. Field Study of Soils. (B)

Plante. Prerequisite(s): GEOL 511 or permission of instructor. All day field trips.

Processes of soil development in a variety of temperate environments. Effects of lithology and climate on soil properties.

SM 615. Advanced Vertebrate Paleontology Seminar. (C) Dodson.

May be repeated for credit.

Topics in vertebrate paleontology and paleoecology.

SM 618. Fundamentals of Air Pollution. (C) Andrews.

This course will cover various topics related to Air Quality. Initial lectures will cover the history of air pollution, discussions of the Clean Air Act and composition of the atmosphere. We will then progress to discussion of atmospheric pollutants and sources of those pollutants. Additional topics will include: fate of atmospheric pollutants (transport and dispersion mechanisms will include: fate of atmospheric pollutants (transport and mechanisms), effects of air pollution (health and environmental effects), urban smog, acid rain, climate change, ozone depletion in the stratosphere, air quality criteria, and engineering controls.

619. Instrumentation for the Geosciences. (B) Vann.

An introduction to the theory, operation and application of modern analytical instrumentation used in geo- and environmental sciences. Primarily focused on laboratory instrumentation such as mass spectroscopy, elemental analyses and x-ray techniques. Some field instruments will be introduced as well. Students will be expected to develop projects utilizing the various instruments.

SM 630. (GEOL208) Advanced Structural Geology Seminar. (M)

Phipps. May be repeated for credit. Four-day field trip.

Topics in tectonophysics and/or regional structural geology.

651. Geocomputations. (M)

Mastropaolo.

Review and applications of selected methods from differential equations, advanced engineering mathematics and geostatistics to problems encountered in geology, engineering geology, geophysics and hydrology.

652. Physical Geology for Environmental Professionals. (A)

Freed.

Study of the genesis and properties of earth materials (minerals, rocks, soil, water); consideration of volcanic, erosional, glacial, and earthquake processes along with the characterization of the earth's deep interior crustal and near-surface

structure. Classroom study of minerals, crystals, fossils, and rocks as time permits.

653. Introduction to Hydrology. (A) Sauder.

Introduction to the basic principles of the hydrologic cycle and water budgets, precipitation and infiltration, evaporation and transpiration, stream flow, hydrograph analysis (floods), subsurface and groundwater flow, well hydraulics, water quality, and frequency analysis.

SM 654. Geomechanics: Solids. (A) Duda.

Mechanical properties of solid and fluid earth materials, stress and strain, earth pressures in soil and rock, tunnels, piles, and piers; flow through gates, weirs, spillways and culverts, hydraulics, seepage and Darcy's law as applied to the hydrologic sciences.

656. Fate and Transport of Pollutants. (A) Mastropaolo.

This course covers basic groundwater flow and solute transport modeling in one-, two- and three-dimensions. After first reviewing the principles of modeling, the student will gain hands-on experience by conducting simulations on the computer. The modeling programs used in the course are MODFLOW (USGS), MT3D, and the US Army Corps of Engineers GMS (Groundwater Modeling System).

SM 658. Geostatistics. (C) Mastropaolo.

Statistical analysis of data from geological, geotechnical, and geohydrologic sources.

661. Environmental Groundwater Hydrology. (B) Mastropaolo.

This course is designed to introduce the major definitions and concepts regarding groundwater flow and contaminant transport. The theory underlying concepts, including mathematical derivations of governing equations used to model groundwater flow and contaminant

transport, will be discussed and applications to environmental problems addressed.

663. Geochemical Modeling. (B) Mastropaolo.

This course is designed to introduce the major concepts regarding geochemistry and geochemical modeling. The course introduces two United States Geological Survey (USGS) computer models, PHREEQC, a geochemical speciation model, and PHAST, a transport module which is coupled with PHREEQC output. These are highly respected, world-renowned models that are free-ware via the USGS, complete with documentation. Once familiar with the models, the student can continue to work with them beyond the course experience.

PHREEQC is designed to perform a wide variety of aqueous geochemical calculations and can be used to simulate chemical reactions and transport processes in natural or polluted waters. PHREEQC is capable of modeling both equilibrium and kinetic reactions. Some of the simulations pursued during the course include: Speciation of precipitation water; Iron speciation; Zinc sorption onto hydrous ferric oxide; Oxidation of organic carbon and the sequence of electron donors in natural waters; Benzene advective transport in groundwater; TCE transport and degradation.

665. Engineering Geology & Geotechnics. (A) Freed.

Based on numerous case histories, the theme of this course is characterization of the geologic environment for engineering and environmental investigations. Covered are the various exploration tools and methods, including interpretation of remotely sensed imagery; field and laboratory measurements of material properties; and instrumentation monitoring. Rock masses and the significance of discontinuities are discussed as are soil

formations in terms of occurrence and mode of deposition, and their typical physical properties. The latter half of the course is dedicated to the geologic hazards; i.e. ground subsidence and collapse, landslides and earthquakes, with emphasis on prediction, prevention and damage control.

666. Geology Field Work. (C) Giegengack. 4-8 weeks during the summer.

668. Geomechanics: Fluids. (B) Duda.

Static and Dynamic mechanical properties of fluid in earth materials, as applied to the Hydrologic Sciences; Principles of Fluid Mechanics and Hydraulics applied to open channel flow in earth materials; flow through gates, weirs, spillways, and culverts; Applications of Darcy's Law to subsurface flow and seepage.

SM 750. Topics in earth Science. Jane Willenbring. Open only to PhD students.

This course will use the weekly EES seminar series to survey historic breakthrough papers or topics in the earth sciences, as well as modern papers - written by the seminar speakers - that often put the classics in perspective. Graduate students (Ph.D. only) in the Department of Earth and Environmental Science will engage in the material through reading, presentation, and discussion. The course has several goals. (1.) To engender an understanding and appreciation of major breakthroughs in our field. (2.) To develop skills in presenting and discussing scientific results. And (3.) to refine students' understanding of what constitutes great science.

999. Independent Study and Research. (C) Staff. Prerequisite(s): Permission of departmental committee. Hours and credits to be arranged.

Directed study for individuals or small groups under supervision of a faculty member.

EAST ASIAN LANGUAGES AND CIVILIZATIONS (AS) {EALC}

121. BEGINNING FILIPINO II.

131. BEGINNING THAI II. (E)

231. INTERMEDIATE THAI II.

520. (EALC220) CHINESE CINEMA.

999. INDEPENDENT STUDY.

EAST ASIAN NON-LANGUAGE COURSES IN LITERATURE, HISTORY AND CULTURE

SM 722. (EALC722) Adv Classical Chinese II. Staff.

L/R 001. Introduction to Chinese Civilization. (A) History & Tradition Sector. All classes. Goldin.

Survey of the civilization of China from prehistoric times to 1912.

L/R 002. Introduction to Japanese Civilization. (B) History & Tradition Sector. All classes. Staff.

Survey of the civilization of Japan from prehistoric times to the present.

004. (RELS001) Religions of Asia. (C)

007. (HIST005) East Asia: Past and Present. Park.

This course surveys the history of East Asia from early times to the present. We will study the establishment of various sociopolitical orders and their characteristics alongside major cultural developments. Covered topics include: state formation and dissolution; the role of ideology and how it changes; religious beliefs and values; agriculture, commerce, and industry; changing family relations; responses to imperialism; and East Asia's growing stature in the modern world as well as future prospects. Although a main focus will be on understanding how the regions we now know as China, Japan, and Korea emerged with their respective identities, the course will also give attention to various groups that are rarely noticed in the contemporary world but are nonetheless historically important, such as the Tibetans, Khitans, Jurchens, Mongols, and Manchus. For students in the University of Pennsylvania College of Arts and Sciences, the course fulfills the Cross-Cultural Analysis foundational requirement.

008. (RELS172) East Asian Religions. (A) Cheng H.

This course introduces religious traditions in China, Japan, and Taiwan from ancient to contemporary times, with emphases on their sociopolitical contexts, visual and material dimensions, and entanglement with gender, sexuality, and the body. We will examine the history of Confucianism, Daoism, Buddhism, Shinto, as well as the practices, thoughts, and institutions that do not fall squarely into those categories. We will pay attention to the relationship between textual and oral traditions, and that between canons, rituals, and popular practices from both historical and anthropological perspectives.

L/R 013. (ARTH103, VLST233) Art and Civilization in East Asia. (D) Arts & Letters Sector. All Classes. Davis,Steinhardt.

Survey of the major artistic traditions of East Asia from Neolithic times through the 18th century. Will serve as an introduction to upper level lecture courses that deal with the arts and civilizations of China, Korea, and Japan. Students study and handle objects during weekly session in the Museum.

L/R 034. (RELS184) What is Taoism?. (A) Goldin.

In this course, we will attempt to answer the question, "What is Daoism?" The bulk of the readings will consist of English translations of primary texts that have at one time or another been labeled as "Daoist," in order to sort out the different senses of the term, and consider what common features, if any, are shared by these influential texts. The course begins with the Laozi, the one text affirmed by virtually all "Daoist" traditions as foundational. The readings include several other "Daoist" texts, covering a period of roughly one thousand years, and will conclude with a survey of meditation and longevity techniques, practices which sometimes have no textual basis whatsoever. Drawing on various kinds of "Daoist" sources, we hope to answer the question that serves as the title of this course. No knowledge of Chinese is presumed. Graduate students may not enroll in this course.

041. (HIST096) Late Imperial China. (C) Fei.

From an Eurasian empire ruled by Mongols to an ethnically defined Han Chinese Ming dynasty, then again to a multi-ethnic empire ruled by a minority group of Manchus, the disruptions and transformations in the very idea of "China"

in the past seven centuries defies our modern notion of China as a unitary nation with the world's longest continuous cultural tradition. How to understand the continuities and discontinuities of the last three imperial dynasties of China will be the central focus of our survey. How did these different ethnic groups adjust to each other's way of life? Did complicated cultural interaction prompt different visions of empires? How did the meaning of "Chinese change over this time period? How did international politics shape the fate of Chinese empires?

With no assumption of prior knowledge, lectures open with an overview of Chinese society before the eve of the Mongolian invasion, and then trace the changing visions of ethnic and social orders in the subsequent regimes ruled by three different ethnic groups (Mongolian, Han Chinese, and Manchurian). We will examine and compare bureaucratic operations, cultural ideals, domestic and international policies from above as well as the daily life experiences from below. The course will conclude with an analysis of the collapse of the imperial order at the beginning of the twentieth century, after it was severely challenged by a semi-Christian Utopian movement from within and global drug trade imperialist attacks from without.

L/R 047. (HIST097) China in the 20th Century. (C) History & Tradition Sector. All classes. Fei.

From an empire to a republic, from a communism to socialist-style capitalism, few countries have ever witnessed so much change in a hundred year period as China during the twentieth century. How are we to make sense out of this seeming chaos? This course will offer an overview of the upheavals that China has experienced from the late Qing to the Post-Mao era, interspersed that China has experienced from the late Qing to the Post-Mao era, interspersed with personal perspectives revealed in primary source readings such as memoirs, novels, and oral accounts. We will start with an analysis of the painful transition from the last empire, the Qing Dynasty (1644-1911), to a modern nation state, followed by exploration of a century-long tale of incessant reform and revolution. The survey will focus on three main themes: 1) the repositioning of China in the new East Asian and world orders; 2) the emergence of a modern Chinese state and nationalistic identity shaped and reshaped by a series of cultural crises; and finally 3) the development and transformation of Chinese modernity. Major historical developments include: the

Opium War and drug trade in the age of imperialism, reform and revolution, the Nationalist regime, Mao's China, the Cultural Revolution, and the ongoing efforts of post-Mao China to move beyond Communism.

We will conclude with a critical review of the concept of "Greater China" that takes into account Taiwan, Hong Kong, and the Chinese diaspora in order to attain a more comprehensive understanding of modern China, however defined, at the end of the last century.

SM 055. (CIMS055) Monsters of Japan. (B) Chance, F.

Godzilla! Mothra! Rodan! Totoro! Pikachu! If you know who they are, join us to discover the deeper meanings of monstrosity in Japan. If you don't know who they are, learn the literal, metaphorical, and cinematic implications of these giant (and not so giant) beasts. Watch Tokyo go down in flames, and discuss what that means for New York and Philadelphia! Explore the history, literature, and films of Japanese monsters in this undergraduate seminar.

L/R 069. Japanese Popular Culture. (M) Arts & Letters Sector. All Classes. Staff.

Today, Japanese manga, anime, J-pop, and film have a global audience. But these exports can only be truly understood in light of longstanding domestic anxieties about sex, violence, gender, and "the kids these days." More recent concerns about the country's declining birthrate, weakening geopolitical position, and vulnerability to natural and anthropogenic disaster also deeply influence Japanese media products. This course explores some of these anxieties through critical examinations of manga, anime, video games, television, music, and fashion in Japan. Film screenings include work by directors Kon Satoshi, Otomo Katsuhiro, Takahata Isao, Miyazaki Hayao; Itami Juzo, and Takita Yojiro; manga excerpts include work by Tezuka Osamu, Urasawa Naoki, and Yazawa Ai. Secondary readings include scholarship in anthropology, history, sociology, literature, film studies and religious studies.

071. (HIST091) Modern Japanese History. (B) History & Tradition Sector. All classes. Dickinson.

This course will survey the major political, economic, social and intellectual trends in the making of modern Japan. Special emphasis will be given to the turbulent relationship between state and society from 1800 to the present.

L/R 080. (HIST098) Introduction to Korean Civilization. (C) History & Tradition Sector. All classes. Park.

This gateway course surveys the history of Korea from early times to the present. We will study the establishment of various sociopolitical orders and their characteristics alongside major cultural developments. Covered topics include: state formation and dissolution; the role of ideology and how it changes; religious beliefs and values; agriculture, commerce, and industry; changing family relations; responses to Western imperialism; and Korea's increasing presence in the modern world as well as its future prospects. Students will also be introduced to various interpretive approaches in the historiography. No prior knowledge of Korea or Korean language is presumed.

082. (HIST121) Modern Korea. (C) Park.

An examination of Korean society and culture in tumultuous transition, focusing on challenges for the Choson Dynasty and its reform effort, pressures imperialism, impact of Japanese colonial rule, conflict between two rival regimes, South Korea's emergence as a major player in the international political economy, some salient features of the totalitarian North Korean regime, triumph of democracy, and Korea's place in the world.

091. (HIST391) Korea: Remembering the Forgotten War. (M) Staff.

Will involve Korean history, diplomatic history, and certainly some military history, in which we consider the major thrust of the military action: the North Korean attack, MacArthur's landing at Inch'on, battling the Chinese in the north, the UN retreat, and stalemate along the DMZ. It will also involve a study of Korean politics, US politics--e.g., the MacArthur vs. Truman-MacArthur controversy; and international politics--the roles of Stalin and Mao, the role of the war on US servicemen, and on the Korean civilian populace. We will look at the war in retrospect--the shaping of an America-Korean relationship, the Korean Diaspora in America. And of course we will examine it as a war America didn't win.

So "Korea: The Forgotten War Remembered" is a war course insofar as we conceive war as a totally engulfing social experience that effects the participating nations and societies in ways far deeper than simply statistics of how many casualties were suffered, how much territory was seized, and the like. It will address larger issues than simply military strategy and tactics, great generals and poor

leadership. It will seek to capture more broadly the historical significance of the Korean War: its impact on Koreans and Americans and the Korean-American relationship, its role in determining US-China relations for a generation, and its place in Cold War history.

L/R 105. (EALC505, HIST395) East Asian Diplomacy. (A) Dickinson.

This course will survey the history of relations among the great powers in East Asia from the sixteenth century to the present. Special emphasis will be given to regional and global developments from the perspective of the three principal East Asian states-China, Japan, Korea. We will explore the many informal, as well as formal, means of diplomacy in East Asia over the past 400 plus years.

115. (EALC515, RELS175) Buddhist Arts of East Asia: Sources, Iconography and Styles. (M) Chance, F.

Survey of art and architecture created for Buddhist religious purposes in China, Japan, and to a lesser extent Korea, Tibet, and Central Asia. The course will include a brief overview of Buddhist monuments in South Asia, study of the iconography of Buddhist images in graphic and sculptural media, and analysis of a variety of Buddhist styles in painting, sculpture, and architecture.

116. (EALC516) East Asian Gardens. (M) Chance, F.

Explore the beauty of gardens (and associated buildings) in Japan, China, and Korea from ancient times to the present. Lectures will be illustrated by photographs from dozens of sites in East Asia, and by a field trip to the Japanese House and Garden in Fairmount Park. The main body of the course will be a historical survey of the evolution of East Asian garden art forms from the sixth century to the present. Discussion will touch on geographic and climatic parameters, spiritual and aesthetic principles, practical limitations and creative innovations of East Asian gardens. There will be an additional fee for the Japanese House visit, and possibly for other field trips.

118. (EALC518) Gender and Sexuality in Asia. (M) Kano.

This introductory course will deal with issues such as stereotypes of Asian women and men, cultural construction of femininity and masculinity, international and sexual division of labor, traffic in women in the sex industries, representation of gender and sexuality in academic

scholarship as well as literary texts and popular culture, local and global activism for the rights of women and sexual minorities.

SM 119. (EALC519) East Asian Ceramics. (M) Chance, F.

History of ceramic forms, techniques, and aesthetic principles in China, Korea, and Japan from neolithic times to the present century, illustrated by slides and examples, augmented by readings, field trips, and student presentations. Aimed at students with general interest in Japan and/or ceramics history; particularly but not exclusively those majoring in Asian and Middle Eastern Studies, East Asian Area Studies or History of Art; also art majors interested in ceramics.

122. (EALC522) Chinese Fiction and Drama in Translation. (B) Arts & Letters Sector. All Classes. Mair.

This course introduces students to some of the great classics of Chinese literature, from the fourth to the nineteenth centuries. This period saw the blossoming of many new literary forms, and the writing of some of the most creative and important works of the Chinese tradition (including the novels *Journey to the West*, *Dream of the Red Chamber*, and *The Plum in the Golden Vase*). We will read tales of anomalies, transformation texts, adventure stories, historical dramas, romances, and erotic fiction. There are no prerequisites for this course.

125. (CIMS220, EALC525) Cultural Chinas: 20th Century Chinese Literature and Film. (B) Arts & Letters Sector. All Classes.

This course serves as a thematic introduction to modern Chinese literature and cinema in mainland China, Taiwan, Hong Kong, and transnational Chinese communities in the twentieth century. By discussing a wide range of key literary and filmic texts, this class looks into major issues and discourses in China's century of modernization: enlightenment and revolution, politics and aesthetics, sentimental education and nationalism, historical trauma and violence, gender and sexuality, social hygiene and body politics, diaspora and displacement, youth sub-culture and urban imagination.

L/R 127. (ARTH214, ARTH614, EALC527) The Arts of China. (C)

Steinhardt. Graduate students may take this course as EALC 527 and should see the instructor to discuss additional requirements for graduate credit.

A broad survey of Chinese architecture, sculpture, and painting from the Neolithic age through the nineteenth century. Topics include excavated material from China's bronze age, Chinese funerary arts, Buddhist caves and sculpture (including works in the University Museum), the Chinese city, the Chinese garden, and major masterpieces of Chinese painting.

SM 141. (GSWS233, HIST233, URBS260) Topics in Asian History. (M) Fei.

Topics Vary

151. (CIMS151, COML256, EALC551, GSWS257) Contemporary Fiction & Film in Japan. (M) Arts & Letters Sector. All Classes. Kano.

This course will explore fiction and film in contemporary Japan, from 1945 to the present. Topics will include literary and cinematic representation of Japan's war experience and post-war reconstruction, negotiation with Japanese classics, confrontation with the state, and changing ideas of gender and sexuality. We will explore these and other questions by analyzing texts of various genres, including film and film scripts, novels, short stories, manga, and academic essays. Class sessions will combine lectures, discussion, audio-visual materials, and creative as well as analytical writing exercises. The course is taught in English, although Japanese materials will be made available upon request. No prior coursework in Japanese literature, culture, or film is required or expected; additional secondary materials will be available for students taking the course at the 600 level. Writers and film directors examined may include: Kawabata Yasunari, Hayashi Fumiko, Abe Kobo, Mishima Yukio, Oe Kenzaburo, Yoshimoto Banana, Ozu Yasujiro, Naruse Mikio, Kurosawa Akira, Imamura Shohei, Koreeda Hirokazu, and Beat Takeshi.

152. (EALC552) Love and Loss in Japanese Literary Traditions: In Translation. (A) Arts & Letters Sector. All Classes. Chance.

How do people make sense of the multiple experiences that the simple words "love" and "loss" imply? How do they express their thoughts and feelings to one another? In this course, we will explore some means Japanese culture has found to grapple with these events and sensations. We will also

see how these culturally sanctioned frameworks have shaped the ways Japanese view love and loss. Our materials will sample the literary tradition of Japan from earliest times to the early modern and even modern periods. Close readings of a diverse group of texts, including poetry, narrative, theater, and the related arts of calligraphy, painting, and music will structure our inquiry. The class will take an expedition to nearby Woodlands Cemetery to experience poetry in nature. By the end of the course, you should be able to appreciate texts that differ slightly in their value systems, linguistic expressions, and aesthetic sensibilities from those that you may already know. Among the available project work that you may select, if you have basic Japanese, is learning to read a literary manga. All shared class material is in English translation.

153. (EALC553) Loyal Warriors in Japanese Literature. (M) Chance.

From the earliest literature to the latest think piece on Japanese society, the roles of the "warrior" and of "loyalty" in Japanese culture have fascinated those both inside and outside of Japan. In this course we will trace the development of paragons of loyalty and warrior prowess from the earliest literary works, through the epic *Tales of the Heike*, and on to the "Treasury of Loyal Retainers," theater, and film. We will read in the philosophy of fidelity and samurai codes to track the growing dedication to ideals of loyalty, exploring evidence of behavior less than loyal as we seek the real influence of these notions. Related topics include the extremes of vengeance and fanaticism.

157. (ARTH213, ARTH613, EALC557) Arts of Japan. (M) Nishimura. Graduate students may take this course as EALC 557 and should see the instructor to discuss additional requirements for graduate credit.

This course introduces the major artistic traditions of Japan, from the Neolithic period to the present, and teaches the fundamental methods of the discipline of art history. Special attention will be given to the places of Shintō, the impact of Buddhism, and their related architectures and sculptures; the principles of narrative illustration; the changing roles of aristocratic, monastic, shogunal and merchant patronage; the formation of the concept of the artist over time; and the transformation of tradition in the modern age.

160. (EALC560) Introduction to Japanese Thought. (A) History & Tradition Sector. All classes. Staff.

This course introduces the major intellectual developments and problems within Japan's history. Special attention will be given to explaining why and how Japanese thinkers only selectively absorbed Chinese thinking during Japan's first "opening" to outside influence and then later tried again to be selective when engaged with the West. Japanese thinkers' differing way of understanding and utilizing Buddhism, Confucianism, Daoism, Christianity, and European philosophy will be considered. So too, however, will be what are usually taken to be "native" patterns of thought--viz. Shinto, The National Learning School, and what came to be called "the Code of the Warrior." Surfacing at various points in this course will be questions that could be addressed to any nation or people and their intellectual history--viz. What does it mean for anyone to claim there might be "indigenous" modes of thought and appreciation? Can thought and philosophy get free of being suspect as ways for the expression of nationalism in its various forms? What are some of the practical consequences in and for a society, especially in our "globalized" world, when its intellectual trajectory differs from that of the "West" and important contemporary thinkers within wish to retain that divergence? Because of its double and deep interaction with two "alien" thought modes--that of China and that of the modern West--Japan provides an especially fine venue for the exploration of such topics.

166. (EALC566, GSWS186, GSWS586) Gender and Sexuality in Japan. (M) Kano.

This seminar deals with issues such as the cultural and historical constructions of femininity and masculinity; gendered division of education and labor; representation of gender and sexuality in literature, theater, and popular culture; and forms of activism for the rights of women and sexual minorities. This course will use films, videos, and manga, as well as readings from anthropological, historical, literary, and theoretical texts. All readings will be in English, but Japanese materials will be available to those interested.

176. (HIST276) Japan: The Age of the Samurai. (C) Spafford.

Who (or what) were the samurai? What does it mean to say that Japan had an "Age of the Samurai"? In popular imagination, pre-modern Japan has long been associated

with its hereditary warrior class. Countless movies have explored the character and martial prowess of these men. Yet warriors constituted but a tiny portion of the societies they inhabited and ruled, and historians researching medieval Japan have turned their attentions to a great range of subjects and to other classes (elite and commoner alike). This class is designed to acquaint students with the complex and diverse centuries that have been called the "Age of the Samurai"--roughly, the years between ca. 1110 and 1850. In the course of the semester, we will explore the central themes in the historiography of warrior society, while introducing some of the defining texts that have shaped our imagination of this age (from laws to epic poems, from codes of conduct to autobiographies).

192. (EALC592) Arts of Korea. (B) Chance, F.

The goal of this course is understanding the development of visual, performing, and literary arts in Korea and the historical, religious, and social contexts in which they flourished. It serves as an introduction to the arts of Korea, with emphasis on painting, sculpture, ceramics, and architecture and additional consideration of dance, drama, poetry, and culinary arts. Covers the whole history of Korea, from prehistoric times to the twenty-first century.

206. (EALC606, GSWS207, GSWS607) Gender and Sexuality in East Asia. (M) Kano.

The course will be a collaborative investigation of some of the most important issues concerning gender and sexuality in East Asia. The region has in common the legacies of Buddhism and Confucianism, as well as a process of rapid modernization and industrialization in the last couple of centuries. They are also bound to each other through cultural ties, colonial experiences, and international trade. The course assumes that when talking about gender and sexuality, confining our perspective to one nation-state often makes little sense. Many issues must be considered within the contexts of historical, cultural, political, and economic exchange. We must also take account of our own location in a classroom in the United States, and question the ways in which our knowledge about the lives of women and men in East Asia is constructed, enabled and constrained. To this end, the course will encourage us to be critical readers of various sources of information: historical materials, scholarly essays, contemporary journalism, fiction, and film.

SM 211. (EALC611) Life and Death in Han China. (C) Steinhardt.

Using maps, city-panning, architecture, wall painting, sculpture, and minor arts as evidence, the course will examine the attitudes toward life and death in Han (206 BCE-AD 220) China.

SM 216. (EALC616) Chinese Art Under the Mongols. (M) Steinhardt.

The Yuan Dynasty (1257-1368), the period of Mongolian rule, was the only time in Chinese history when China was part of a larger empire that spanned the Asian continent. Using architecture, sculpture, painting, and excavated evidence, this course examines the unique results of an international Asian world centered in China.

221. (CHIN491, EALC621) First Year Classical Chinese. (A) Mair.

Introduction to the classical written language, beginning with Shadick, First Course in Literary Chinese. Students with a background in Japanese, Korean, Cantonese, Taiwanese, and other East Asian languages are welcome; it is not necessary to know Mandarin. The course begins from scratch, and swiftly but rigorously develops the ability to read a wide variety of classical and semi-classical styles. Original texts from the 6th century BC to the 20th century AD are studied. This course is taught in English and there are no prerequisites.

222. (CHIN492, EALC622) 1st Year Classical Chin II. (B) Mair.

Continuation of CHIN491 EALC221/621, which is the only prerequisite for this course. Upon completion of Shadick, readings in a wide selection of texts with Chinese commentaries may be taken up. These readings are in part chosen to reflect student interest. This is the second half of a year-long course. Those who enroll must take both semesters.

SM 223. (EALC623) Language, Script and Society in China. (M) Mair.

The Chinese writing system is the only major surviving script in the world that is partially picto-ideographic, Egyptian hieroglyphic and Sumero-Akkadian cuneiform having passed out of use about two millennia ago. Partly because it is so unique, a tremendous number of myths have grown up around the Chinese script. In an attempt to understand how they really function, this seminar will examine the nature of the sinographs and their relationship to spoken Sinitic languages, as well as their implications for society and culture. We will also discuss the artistic

and technological aspects of the Chinese characters and the ongoing efforts to reform and simplify them. The use of sinographs in other East Asian countries than China will be taken into account. There are no prerequisites for this class.

SM 224. (EALC624) Urban Culture in Chinese Literature and Film. (M) Staff.

This course examines evolving conceptions of the city in modern Chinese literature and film from late Qing through the twentieth century up to the present. By discussing key literary and cinematic representations of major Chinese cities through different historical contexts, the course aims to understand Chinese modernity as marked by its unique urban sensibilities and configurations. Main issues considered include space, urban sensibilities and anxieties, historical consciousness, memory and amnesia, tourism and consumption, coloniality, cosmopolitanism, globalization, etc. We will deal with urban narratives regarding major cities including Beijing, Shanghai, Chongqing, Hong Kong, and Taipei.

SM 225. (CIMS205, EALC625) Topics in Chinese Cinema. (C) Staff.

This course is an introduction to Chinese cinema in mainland China, Taiwan, and Hong Kong, with emphasis on the way it represents or negotiates notions of China and Chineseness, as well as national and cultural identity. We will examine Chinese cinematic traditions in light of significant topics such as: the foundation of Chinese cinema and the rise of nationalism; film's relationship to literary and popular cultural discourses; the pursuit of modernization; aesthetic responses to political and historical upheavals and transformations; the aesthetics of revolution, diaspora and transnationalism; visualized sexualities, violence, and youth subculture; collective desires to imagine and reinvent the cultural past; the politics of memory, mourning and amnesia, among others.

SM 226. (EALC626) East Asian Funerary Arts. (A) Steinhardt.

Study of tombs and tomb decoration of emperors and officials in China, Korea, and Japan from the pre-Buddhist era through the 19th century.

L/R 227. (ARTH217, ARTH616, EALC627) Chinese Painting. (C) Steinhardt.

Study of Chinese painting and practice from the earliest pictorial representation through the late twentieth century. Painting styles are analyzed, but themes such as

landscape and narrative are considered with regard to larger social, cultural, and historical issues. The class will pay particular attention to the construction of the concepts of the "artist" and "art criticism" and their impact on the field into the present. Visits to study paintings at the University of Pennsylvania Museum and Philadelphia Museum of Art.

228. (EALC628) Chinese Wall Painting. (M) Steinhardt.

Survey of mural painting in temples and tombs from the earliest examples in the last BCE centuries through the Ming dynasty. The course examines paintings that have been uncovered in the last few years, as well as famous examples in China and in North American museums.

229. (ARCH716, EALC629) Chinese Architecture. (C) Steinhardt. Graduate-level option requires a 20-page paper and permission of the instructor.

Survey of Chinese buildings and building technology from the formative period in the second millennium B.C. through the twentieth century. The course will deal with well-known monuments such as the Buddhist monasteries of Wutai, imperial palaces in Chang'an and Beijing, the Ming tombs and the Temple of Heaven, and less frequently studied buildings. Also covered will be the theory and principles of Chinese construction.

SM 232. (EALC632) Cultural Memory in Contemporary China. (M) Staff.

How is memory constructed and represented? What does society remember and/or forget? How and under what circumstances? How is it possible and/or impossible to bear witness? This course will examine notions of individual and collective memories, trauma, catastrophe, historical violence, post-socialist nostalgia, and amnesia, and explore the possibilities and impossibilities of remembering and forgetting in various forms of representation and cultural production in contemporary Chinese-speaking communities.

SM 239. (EALC639) Sex and Society in Ancient China. (M) Goldin.

Ancient Chinese writers considered sexual activity to be an essential component of humanity, and the study of human sexuality to be essential to the study of human history. Sexuality constituted a fundamental source of imagery and categories that informed the classical Chinese conception of social, political, and military relationships. This course will survey the major sources dealing with sex

and society in ancient China. There are no prerequisites, and no knowledge of Chinese is presumed.

SM 240. (EALC640) Early Chinese History. (B) Goldin.

This seminar covers the span of Chinese history from the Bronze Age to the end of the Han dynasty in A.D. 220. No knowledge of Chinese is presumed, but EALC 001 (Introduction to Chinese Civilization) is a prerequisite. Graduate students who wish to enroll should meet with the instructor to discuss additional requirements for graduate credit.

SM 241. (EALC641) Law in Pre-Modern China. (M) Goldin.

This course, intended for graduate students and advanced undergraduates, offers a survey of the sources and research problems of pre-modern Chinese law. For reasons to be examined in the course, traditional Sinological education has neglected law as a legitimate field of inquiry; consequently, the secondary literature is surprisingly meager. Our readings will take us from the Warring States Period to the Qing dynasty--an interval of over two millennia--and will cover several varieties of legal documents, including statutes, handbooks, court records, and theoretical treatises. All the readings will be in English, and no knowledge of Chinese is presumed. Graduate students should see the instructor to discuss requirement for graduate credit.

251. (EALC651, JPAN491) Readings in Classical Japanese I. (A) Chance.

Prerequisite(s): JPAN 212 or equivalent. Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.

252. (EALC652, JPAN492) Readings in Classical Japanese II. (B) Chance, L.

Prerequisite(s): JPAN 212. Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.

SM 254. (EALC654) War and Literature in Japan: Tales of the Heike. (C) Chance, L.

Our subject is Tale of the Heike, a multifaceted narrative of the twelfth-century battles that brought the Taira clan down and led to the establishment of Japan's first military government. We will read the Heike tales with an eye toward

how they fictionalize history and idealize certain types, most notably loyal women and warriors; the development of the warrior tale genre; central aspects of the Japanese ethos; and later works of literature based on episodes and characters from the Tale of the Heike. All material is in English translation. (Students of Japanese language may learn to read a famous section in the original.) There are no pre-requisites.

SM 255. (COML385, EALC655, FOLK485, GSWS254, THAR485) Japanese Theater. (C) Kano.

Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.

SM 256. (EALC656) The Tale of Genji. (C) Chance, L.

"Crowning masterpiece of Japanese literature," "the world's first novel," "fountainhead of Japanese literary and aesthetic culture," "a great soap opera in the vein of Jacqueline Susann." Readers over the centuries have praised the Tale of Genji, the monumental prose tale finished just after the year 1000, in a variety of ways. In this course we will read the latest English translation of Murasaki Shikibu's work. We will watch as Genji loses his mother at a tender age, is cast out of the royal family, and begins a quest to fill the void she left. Along the way, Genji's loyalty to all the women he encounters forges his reputation as the ideal lover. We will consider gender issues in the female author's portrayal of this rake, and question the changing audience, from bored court women to censorious monks, from adoring nationalists to comic book adaptors. Study of the tale requires consideration of poetry, imagery, costume, music, history, religion, theater, political and material culture, all of which will be components of the course. We will also trace the effect of the tale's many motifs, from flora and fauna to murderously jealous spirits, on later literature and conceptions of human emotions. All material is in English translation. There are no prerequisites.

258. (ARCH718, EALC658) Japanese Architecture. (M) Steinhardt.

An introduction to the visual, aesthetic, historical, religious, philosophical, and

symbolic aspects of Japanese structures from earliest times to the mid-19th century. Through a discussion of shrines, temples, palaces, tombs, cities, and gardens the student will explore what makes Japanese architecture distinctive and how the traditions of Japanese architecture evolve over time.

SM 263. (EALC663) Topics in Japanese Thought. (M) Staff.

Prerequisite(s): EALC 002 is recommended.

Course focuses on a few selected topics for close attention. Past topics have included the examination of certain current social and ethical questions-- for instance those having to do with organ transplantation, abortion, suicide, euthanasia, political corruption, and "openness" as a society. Readings will be on contemporary questions but include some pre-modern materials that influence the discussion.

265. (EALC665) Zen Buddhism. (M) Staff. Lectures and discussion.

This course examines the history, doctrines, and practices of Zen Buddhism in China, Japan and the West. Topics include the monastic life, notable Zen masters, Zen's cultural impact, and enlightenment.

SM 269. (EALC669, RELS489) Japanese Buddhism. (C) Staff.

An introduction to the history and cultural role of Buddhism in Japan. Emphasis is on Buddhism as a component in the religious, intellectual, and cultural life of the Japanese, especially in poetry and the visual arts. Includes a short review of prior Buddhism in India and China.

279. (EALC679) Contemporary Japanese Society. (M) Staff. No

background is necessary, although EALC 002 is desirable.

The course will cover a number of social issues in Japan today. Since so much of postwar Japanese development has been based upon the nature of the relationship between the United States and Japan, we will begin with a consideration of the occupation of Japan as the crucible in which the partnership was formed and basic agreements reached. We will examine the nature of the Japanese political economy, both the extraordinary growth of the economy until the late 1980s and its post-cold war stagnation. Among the social issues we will examine are ethnic consciousness, marriage and the family, work and gender roles, school and education. We will conclude with a consideration of Japan's imperialist role in the prewar and wartime era.

SM 291. (EALC691) Archaeology of Central Asia. (C) Steinhardt.

A site by site investigation of Buddhist and non-Buddhist ruins in Central Asia. Included are Nisa, Khwarezm, Pyandzhikent, Khalchayan, Ay-Khanum, Bamiyan, Miran, Tumshuk, Kizil, Kucha, Khotan, Adzhina-Tepe, Khocho, Khara-Khoto, and Bezeklik.

SM 301. Major Seminar on China. (C)

Mair. Prerequisite(s): EALC001, no language required for undergraduates.

Fall 2016; Silk Road: This course will examine the full extent of the so-called Silk Road, from the prehistoric period up to the Mongol period (ca. 13th c.). The primary focus, however, will be on the Tarim Basin in Eastern Central Asia during the Bronze Age and Early Iron Age. It was here and during this period that the famous Caucasoid/Europoid mummies were discovered during the 20th century. All aspects of the mummies will be studied, from physical anthropology to genetics, from language to textiles, from burials to lifestyles, from religion to art. The question of what happened to the mummy people will also be raised, as will who their successors were after they disappeared.

SM 302. Major Seminar on Japan. (A)

Staff. Prerequisite(s): EALC 002. No language required for undergraduates.

This is a seminar required for all Japanese majors in the Department of East Asian Languages and Civilization. Topic varies year to year.

503. (EALC103, HIST003, HIST403) Asia in a Wider World. (A) Waldron.

Integrated introduction to the history of Asia from the middle ages to early modern times (roughly 1100-1800), including China, Japan, Korea, and Southeast Asia, and the great empires of Genghis Khan, Tamerlane, and the Turks, during the period of transition from cosmopolitan empires to nation-states. Presumes no prior knowledge. Emphasis is on Asia's place in world history, with basic narrative, consideration of connections through trade, navigation, and migration; examination of warfare and military technology, and comparisons of social, religious, cultural and identity structures. Substantial attention is also paid to Russia, India, and the Middle East, and to relations with Europe. Readings include translated primary sources.

L/R 505. (EALC105, HIST395) East Asian Diplomacy. (A) Dickinson.

This course will survey recent scholarship on East Asian diplomacy from the sixteenth

century to the present. We will engage several fundamental debates about the relationship between China, Japan, Korea and the outer world and introduce not only orthodox diplomatic analyses but also newer approaches to modern China, Japan and Korea by international and global historians.

515. (EALC115, RELS175) Buddhist Arts of East Asia: Sources, Iconography and Styles. (M) Chance, F. Prerequisite(s): Research in an East Asian language required for graduate credit.

Survey of art and architecture created for Buddhist religious purposes in China, Japan, and to a lesser extent Korea, Tibet, and Central Asia. The course will include a brief overview of Buddhist monuments in South Asia, study of the iconography of Buddhist images in graphic and sculptural media, and analysis of a variety of Buddhist styles in painting, sculpture, and architecture.

516. (EALC116) East Asian Gardens. (M) Chance, F.

Explore the beauty of gardens (and associated buildings) in Japan, China, and Korea from ancient times to the present. Lectures will be illustrated by photographs from dozens of sites in East Asia, and by a field trip to the Japanese House and Garden in Fairmount Park. The main body of the course will be a historical survey of the evolution of East Asian garden art forms from the sixth century to the present. Discussion will touch on geographic and climatic parameters, spiritual and aesthetic principles, practical limitations and creative innovations of East Asian gardens. There will be an additional fee for the Japanese House visit, and possibly for other field trips.

518. (EALC118) Gender and Sexuality in Asia. (M) Kano.

This introductory course will deal with issues such as stereotypes of Asian women and men, cultural construction of femininity and masculinity, international and sexual division of labor, traffic in women in the sex industries, representation of gender and sexuality in academic scholarship as well as literary texts and popular culture, local and global activism for the rights of women and sexual minorities.

SM 519. (EALC119) East Asian Ceramics. (M) Chance, F.

History of ceramic forms, techniques, and aesthetic principles in China, Korea, and Japan from neolithic times to the present

century, illustrated by slides and examples, augmented by readings, field trips, and student presentations. Aimed at students with general interest in Japan and/or ceramics history; particularly but not exclusively those majoring in East Asian Languages & Civs, East Asian Area Studies or History of Art; also art majors interested in ceramics.

521. (EALC121) Chinese Poetry & Prose: In translation. (A) Mair.

A wide variety of poetic & prose genres from the earliest times to the 19th century is introduced through English translation. A few selections will also be studied in Chinese characters with romanized transcriptions. There are no prerequisites for this course.

522. (EALC122) Chinese Fiction and Drama in Translation. (B) Mair.

This course introduces students to some of the great classics of Chinese literature, from the fourth to the nineteenth centuries. This period saw the blossoming of many new literary forms, and the writing of some of the most creative and important works of the Chinese tradition (including the novels *Journey to the West*, *Dream of the Red Chamber*, and *The Plum in the Golden Vase*). We will read tales of anomalies, transformation texts, adventure stories, historical dramas, romances, and erotic fiction. There are no prerequisites for this course.

525. (EALC125) Cultural Chinas: 20th Century Chinese Literature and Film. (B) Staff.

This course serves as a thematic introduction to modern Chinese literature and cinema in mainland China, Taiwan, Hong Kong, and transnational Chinese communities in the twentieth century. By discussing a wide range of key literary and filmic texts, this class looks into major issues and discourses in China's century of modernization: enlightenment and revolution, politics and aesthetics, sentimental education and nationalism, historical trauma and violence, gender and sexuality, social hygiene and body politics, diaspora and displacement, youth sub-culture and urban imagination.

L/R 527. (ARTH214, ARTH614, EALC127) The Arts of China. (C) Staff.

A broad survey of Chinese architecture, sculpture, and painting from the Neolithic age through the nineteenth century. Topics include excavated material from China's bronze age, Chinese funerary arts, Buddhist caves and sculpture (including works in the

University Museum), the Chinese city, the Chinese garden, and major masterpieces of Chinese painting.

531. (EALC131) Introduction to Classical Chinese Thought. (K)

Goldin.

This course is intended as an introduction to the foundational thinkers of Chinese civilization, who flourished from the fifth to the second centuries B.C. No knowledge of Chinese is presumed, and there are no prerequisites, although EALC 001 (Introduction to Chinese Civilization) is recommended. Graduate students may take this course as EALC 531 and should see the instructor to discuss requirements for graduate credit. (Undergraduates must enroll in the course as EALC 131.)

551. (CIMS151, COML256, EALC151, GSWS257) Contemporary Fiction & Film in Japan. (M) Kano. Prerequisite(s):

This course will explore fiction and film in contemporary Japan, from 1945 to the present. Topics will include literary and cinematic representation of Japan's war experience and post-war reconstruction, negotiation with Japanese classics, confrontation with the state, and changing ideas of gender and sexuality. We will explore these and other questions by analyzing texts of various genres, including film and film scripts, novels, short stories, manga, and academic essays. Class sessions will combine lectures, discussion, audio-visual materials, and creative as well as analytical writing exercises. The course is taught in English, although Japanese materials will be made available upon request. No prior coursework in Japanese literature, culture, or film is required or expected; additional secondary materials will be available for students taking the course at the 600 level. Writers and film directors examined may include: Kawabata Yasunari, Hayashi Fumiko, Abe Kobo, Mishima Yukio, Oe Kenzaburo, Yoshimoto Banana, Ozu Yasujiro, Naruse Mikio, Kurosawa Akira, Imamura Shohei, Koreeda Hirokazu, and Beat Takeshi.

552. (EALC152) Love and Loss in Japanese Literary Traditions: In Translation. (A) Chance.

How do people make sense of the multiple experiences that the simple words "love" and "loss" imply? How do they express their thoughts and feelings to one another? In this course, we will explore some means Japanese culture has found to grapple with these events and sensations. We will also see how these culturally sanctioned frameworks have shaped the ways Japanese view love and loss. Our materials will

sample the literary tradition of Japan from earliest times to the early modern and even modern periods. Close readings of a diverse group of texts, including poetry, narrative, theater, and the related arts of calligraphy, painting, and music will structure our inquiry. The class will take an expedition to nearby Woodlands Cemetery to experience poetry in nature. By the end of the course, you should be able to appreciate texts that differ slightly in their value systems, linguistic expressions, and aesthetic sensibilities from those that you may already know. Among the available project work that you may select, if you have basic Japanese, is learning to read a literary manga. All shared class material is in English translation.

553. (EALC153) Loyal Warriors in Japanese Literature. (M) Chance.

From the earliest literature to the latest think piece on Japanese society, the roles of the "warrior" and of "loyalty" in Japanese culture have fascinated those both inside and outside of Japan. In this course we will trace the development of paragons of loyalty and warrior prowess from the earliest literary works, through the epic Tales of the Heike, and on to the "Treasury of Loyal Retainers." We will read in the philosophy of fidelity and samurai codes to track the growing dedication to ideals of loyalty, exploring evidence of behavior less than loyal as we seek the real influence of these notions. Related topics will include the extremes of vengeance and fanaticism.

557. (ARTH213, ARTH613, EALC157) Arts of Japan. (C) Nishimura.

This is an introductory survey course on the ancient societies and civilizations of East Asia especially in the areas known today as Japan, China, Korea. This course will explore the general lifeways of the peoples in these regions during the prehistoric periods, specifically from the Mesolithic/Neolithic periods about 8,000 BC up to the era of political unification around 700 AD in both the Japanese archipelago and the Korean peninsula. By examining primarily the art and architecture of these prehistoric societies, this course will explore important sociocultural aspects, including subsistence, sedentism, state formation, social stratification, leadership, warfare, trade, technology, population movement, and mortuary customs. The course aims to provide a through foundation for further study in the histories and cultures of ancient Japan, China and Korea.

560. (EALC160) Introduction to Japanese Thought. (A) Staff.

This course introduces the major intellectual developments and problems within Japan's history. Special attention will be given to explaining why and how Japanese thinkers only selectively absorbed Chinese thinking during Japan's first "opening" to outside influence and then later tried again to be selective when engaged with the West. Japanese thinkers' differing way of understanding and utilizing Buddhism, Confucianism, Daoism, Christianity, and European philosophy will be considered. So too, however, will be what are usually taken to be "native" patterns of thought--viz. Shinto, The National Learning School, and what came to be called "the Code of the Warrior." Surfacing at various points in this course will be questions that could be addressed to any nation or people and their intellectual history--viz. What does it mean for anyone to claim there might be "indigenous" modes of thought and appreciation? Can thought and philosophy get free of being suspect as ways for the expression of nationalism in its various forms? What are some of the practical consequences in and for a society, especially in our "globalized" world, when its intellectual trajectory differs from that of the "West" and important contemporary thinkers within wish to retain that divergence? Because of its double and deep interaction with two "alien" thought modes--that of China and that of the modern West--Japan provides an especially fine venue for the exploration of such topics.

566. (EALC166, GSWS186, GSWS586) Gender and Sexuality in Japan. (M) Kano.

This seminar deals with issues such as the cultural and historical constructions of femininity and masculinity; gendered division of education and labor; representation of gender and sexuality in literature, theater, and popular culture; and forms of activism for the rights of women and sexual minorities. This course will use films, videos, and manga, as well as readings from anthropological, historical, literary, and theoretical texts. All readings will be in English, but Japanese materials will be available to those interested.

576. (EALC176) Japan: Age of the Samurai. (C) Staff.

This course deals with the samurai in Japanese history and culture and will focus on the period of samurai political dominance from 1185 to 1868, but it will in fact range over the whole of Japanese

history from the development of early forms of warfare to the disappearance of the samurai after the Meiji Restoration of the 19th century. The course will conclude with a discussion of the legacy of the samurai in modern Japanese culture and the image of the samurai in foreign perceptions of Japan.

592. (EALC192) Arts of Korea. (B) Chance, F.

The goal of this course is understanding the development of visual, performing, and literary arts in Korea and the historical, religious, and social contexts in which they flourished. It serves as an introduction to the arts of Korea, with emphasis on painting, sculpture, ceramics, and architecture and additional consideration of dance, drama, poetry, and culinary arts. Covers the whole history of Korea, from prehistoric times to the twenty-first century. Students enrolled in this graduate number are expected to do research in an east asian language.

SM 611. (EALC211) Life and Death in Han China. (C) Steinhardt.

Using wall painting, sculpture, and minor arts as evidence, the course will examine the attitudes toward life and beliefs and death in Han (206 B.C.-A.D.220) China.

SM 616. (EALC216) Chinese Arts Under the Mongols. (M) Steinhardt.

The Yuan Dynasty (1257-1368), the period of Mongolian rule, was the only time in Chinese history when China was part of a larger empire that spanned the Asian continent. Using architecture, sculpture, painting, and excavated evidence, this course examines the unique results of an international Asian world centered in China.

SM 623. (EALC223) Language, Script and Society in China. (M) Mair.

The Chinese writing system is the only major surviving script in the world that is partially picto-ideographic, Egyptian hieroglyphic and Sumero-Akkadian cuneiform having passed out of use about two millennia ago. Partly because it is so unique, a tremendous number of myths have grown up around the Chinese script. In an attempt to understand how they really function, this seminar will examine the nature of the sinographs and their relationship to spoken Sinitic languages, as well as their implications for society and culture. We will also discuss the artistic and technological aspects of the Chinese characters and the ongoing efforts to reform and simplify them. The use of sinographs in other East Asian countries than China

will be taken into account. There are no prerequisites for this class.

SM 624. (EALC224) Urban Culture in Chinese Literature and Film. (M) Staff.

This course examines evolving conceptions of the city in modern Chinese literature and film from late Qing through the twentieth century up to the present. By discussing key literary and cinematic representations of major Chinese cities through different historical contexts, the course aims to understand Chinese modernity as marked by its unique urban sensibilities and configurations. Main issues considered include space, urban sensibilities and anxieties, historical consciousness, memory and amnesia, tourism and consumption, coloniality, cosmopolitanism, globalization, etc. We will deal with urban narratives regarding major cities including Beijing, Shanghai, Chongqing, Hong Kong, and Taipei.

SM 626. (EALC226) East Asian Funerary Arts. (A) Steinhart.

Study of tombs and tomb decoration of emperors and officials in China, Korea, and Japan from the pre-Buddhist era through the 19th century.

L/R 627. (ARTH217, ARTH616, EALC227) Chinese Painting. (C) Steinhart.

Study of Chinese painting and practice from the earliest pictorial representation through the late twentieth century. Painting styles are analyzed, but themes such as landscape and narrative are considered with regard to larger social, cultural, and historical issues. The class will pay particular attention to the construction of the concepts of the "artist" and "art criticism" and their impact on the field into the present. Visits to study paintings at the University of Pennsylvania Museum and Philadelphia Museum of Art.

628. (EALC228) Chinese Wall Painting. (M) Steinhart.

Survey of mural painting in temples and tombs from the earliest examples in the last BCE centuries through the Ming dynasty. The course examines paintings that have been uncovered in the last few years, as well as famous examples in China and in North American museums.

629. (ARCH716, EALC229) Chinese Architecture. (C) Steinhart.

Survey of Chinese buildings and building technology from the formative period in the second millennium B.C. through the twentieth century. The course will deal

with well-known monuments such as the Buddhist monasteries of Wutai, imperial palaces in Chang'an and Beijing, the Ming tombs and the Temple of Heaven, and less frequently studied buildings. Also covered will be the theory and principles of Chinese construction.

SM 632. (EALC232) Cultural Memory in Contemporary China. (M) Staff.

How is memory constructed and represented? What does society remember and/or forget? How and under what circumstances? How is it possible and/or impossible to bear witness? This course will examine notions of individual and collective memories, trauma, catastrophe, historical violence, post-socialist nostalgia, and amnesia, and explore the possibilities and impossibilities of remembering and forgetting in various forms of representation and cultural production in contemporary Chinese-speaking communities.

SM 639. (EALC239) Sex and Society in Ancient China. (M) Goldin.

Ancient Chinese writers considered sexual activity to be an essential component of humanity, and that study of human sexuality to be essential to the study of human history. Sexuality constituted a fundamental source of imagery and categories that informed the classical Chinese conception of social, political, and military relationships. This course will survey the major sources dealing with sex and society in ancient China. There are no pre-requisites, and no knowledge of Chinese is presumed.

SM 640. (EALC240) Early Chinese History. (B) Goldin.

This seminar covers the span of Chinese history from the Bronze Age to the establishment of the empire in 221 B.C. No knowledge of Chinese is presumed, but EALC 001 (Introduction to Chinese Civilization) is a prerequisite. Graduate students who wish to enroll should meet with the instructor to discuss additional requirements for graduate credit.

SM 641. (EALC241) Law in Pre-Modern China. (M) Goldin.

This course, intended for graduate students and advanced undergraduates, offers a survey of the sources and research problems of pre-modern Chinese law. For reasons to be examined in the course, traditional Sinological education has neglected law as a legitimate field of inquiry; consequently, the secondary literature is surprisingly meager. Our readings will take us from the Warring

States Period to the Qing dynasty--an interval of over two millennia--and will cover several varieties of legal documents, including statutes, handbooks, court records, and theoretical treatises. All the readings will be in English, and no knowledge of Chinese is presumed. Graduate students should see the instructor to discuss requirement for graduate credit.

SM 645. (EALC245) Popular Culture in Modern China. (B) Staff.

What constitutes Chinese popular culture in the modern age? How does popular culture contest and collaborate with modern Chinese literature in the formation of Chinese modernity? This course provides a comprehensive examination of modern Chinese popular culture in mainland China, Taiwan, Hong Kong, and other transnational Chinese communities in the past century. From film to literature, from opera to theatre, from music, vintage photographs, to comic books, this course will probe popular culture as it has manifested itself in the dynamic dialogue between high art and mass culture, and trace its sociopolitical, cultural, and aesthetic impact on modern China.

Topics will include the sentimental education through reading popular romance as a new form of national pastime; the rise of Chinese pictorial journalism; the gender politics of cross-dressing in Beijing opera as a form of popular entertainment; neo-sensationalism and urban culture in modern Shanghai; the 1930-40s debate over popular and populist culture; the acoustic modernity of Chinese popular music; Maoist model operal and revolutionary melodrama; the cult of masculinity in Hong Kong martial arts fiction and cinema; cultural articulations in post-Maoist Chinese rock music; and the discourse of violence and body in Chinese youth subculture.

651. (EALC251, JPAN491) Readings in Classical Japanese I. (A) Staff.

Prerequisite(s): JPAN 212 or equivalent.

Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.

652. (EALC252, JPAN492) Readings in Classical Japanese II. (B) Chance.

Prerequisite(s): EALC 251/651/JPAN 491 or equivalent.

Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.

653. (EALC253) The Politics of Shinto. (M) Thomas, J.

Shinto-derived images and ideas frequently appear in Japanese anime and film, and journalists and academics frequently mobilize the term Shinto as a way of explaining Japan's past or envisioning its future. The environmentalist left champions a green Shinto while Shinto-derived ideas serve as red meat for politicians pandering to Japan's nationalist right. While the influential position Shinto occupies in Japanese sociopolitical life is therefore clear, the term Shinto itself is actually not. Depending on who one asks, Shinto is either the venerable indigenous religion of the Japanese archipelago, the irreducible core of Japanese culture, a tiny subset of Japanese Buddhism, an oppressive political ideology linked to the emperor system, an environmentalist ethic, or some combination of these. This course investigates the multifarious types of Shinto envisioned by these competing interest groups.

SM 654. (EALC254) Tales of the Heike. (C) Chance, L.

Our subject is Tale of the Heike, a multifaceted narrative of the twelfth-century battles that brought the Taira clan down and led to the establishment of Japan's first military government. We will read the Heike tales with an eye toward how they fictionalize history and idealize certain types, most notably loyal women and warriors; the development of the warrior tale genre; central aspects of the Japanese ethos; and later works of literature based on episodes and characters from the Tale of the Heike. All material is in English translation. (Students of Japanese language may learn to read a famous section in the original.) There are no prerequisites.

SM 655. (EALC255, GSWS255, GSWS654) Japanese Theater. (C) Kano.

Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.

SM 656. (EALC256) The Tale of Genji. (C) Chance, L.

"Crowning masterpiece of Japanese literature," "the world's first novel,"

"fountainhead of Japanese literary and aesthetic culture," "a great soap opera in the vein of Jacqueline Susann." Readers over the centuries have praised the Tale of Genji, the monumental prose tale finished just after the year 1000, in a variety of ways. In this course we will read the latest English translation of Murasaki Shikibu's work. We will watch as Genji loses his mother at a tender age, is cast out of the royal family, and begins a quest to fill the void she left. Along the way, Genji's loyalty to all the women he encounters forges his reputation as the ideal lover. We will consider gender issues in the female author's portrayal of this rake, and question the changing audience, from bored court women to censorious monks, from adoring nationalists to comic book adaptors. Study of the tale requires consideration of poetry, imagery, costume, music, history, religion, theater, political and material culture, all of which will be components of the course. We will also trace the effect of the tale's many motifs, from flora and fauna to murderously jealous spirits, on later literature and conceptions of human emotions. All material is in English translation. There are no prerequisites.

658. (EALC258) Japanese Architecture. (M) Steinhardt.

An introduction to the visual, aesthetic, historical, religious, philosophical, and symbolic aspects of Japanese structures from earliest times to the mid-19th century. Through a discussion of shrines, temples, palaces, tombs, cities, and gardens the student will explore what makes Japanese architecture distinctive and how the traditions of Japanese architecture evolve over time.

SM 663. (EALC263) Topics in Japanese Thought. (M) Staff.

Course focuses on a few selected topics for close attention. Topic for 1995-96 will be examination of certain current social and ethical questions--for instance those having to do with organ transplantation, abortion, suicide, euthanasia, political corruption, and "openness" as a society. Readings will be on contemporary questions but include some pre-modern materials that influence the discussion.

665. (EALC265) Zen Buddhism. (B) Staff. Lectures and discussion.

This course examines the history, doctrines, and practices of Zen Buddhism in China, Japan and the West. Topics include the monastic life, notable Zen masters, Zen's cultural impact, and enlightenment.

SM 669. (EALC269, RELS489) Japanese Buddhism. (C) Staff.

An introduction to the history and cultural role of Buddhism in Japan. Emphasis is on Buddhism as a component in the religious, intellectual, and cultural life of the Japanese, especially in poetry and the visual arts. Includes a short review of prior Buddhism in India and China.

679. (EALC279) Contemporary Japanese Society. (M) Staff.

The course will cover a number of social issues in Japan today. Since so much of postwar Japanese development has been based upon the nature of the relationship between the United States and Japan, we will begin with a consideration of the occupation of Japan as the crucible in which the partnership was formed and basic agreements reached. We will examine the nature of the Japanese political economy, both the extraordinary growth of the economy until the late 1980s and its post-cold war stagnation. Among the social issues we will examine are ethnic consciousness, marriage and the family, work and gender roles, school and education. We will conclude with a consideration of Japan's relations with her Asian neighbors and the lingering problem of Japan's imperialist role in the prewar and wartime era.

SM 691. (EALC291) Archaeology of Central Asia. (C) Steinhardt.

A site by site investigation of Buddhist and non-Buddhist ruins in Central Asia. Included are Nisa, Khwarezm, Pyandzhikent, Khalchayan, Ay-Khanum, Bamiyan, Miran, Tumshuk, Kizil, Kucha, Khotan, Adzhina-Tepe, Khocho, Khara-Khoto, and Bezeklik.

SM 701. Chinese Buddhist Texts. (M)

Mair. Prerequisite(s): Knowledge of Classical Chinese required.

Seminar for graduate students focusing on the medieval period.

SM 710. Proseminar East Asia. (M) Staff.**SM 719. The East Asian Monastery. (M)** Steinhardt.**SM 720. Topics in Chinese Studies. (M)** Mair.**SM 721. (CHIN721) Advanced Classical Chinese I. (M)** Staff.

Close reading and interpretation of texts in various styles of classical Chinese drawn from the Han, Wei, Tang, and Song periods. Focus on strengthening students'

reading ability in classical Chinese. Attention to questions of style, rhetoric, and syntax.

SM 722. (CHIN722) Adv Classical Chinese II. (M) Staff.

SM 723. Early Vernacular Sinitic. (M) Mair.

Selected reading in mostly medieval Chinese texts.

SM 725. Topics in East Asian Art. (M) Staff.

SM 727. Seminar in East Asian Architecture. (C) Steinhardt.

Prerequisite(s): Reading knowledge of Chinese.

Topic varies. Subjects have included The Chinese Monastery, Chinese Architecture in Shanxi Province, and Architecture in East Asian Painting.

SM 730. SURVEY CHINESE HISTORY. (C)

SM 740. Sinological Methods. (M) Goldin.

This seminar is designed to acquaint graduate students with the basic methods and resources of Sinological research. The course will begin with an overview of essential reference works and aids to study, such as dictionaries and concordances, and continue with a survey of the major primary sources for the study of traditional Chinese history. Students are required to demonstrate the use of the methods learned in the course in a research paper, to be presented to the class in the form of a brief lecture at the end of the semester. Only graduate students may enroll in this course. The prerequisites are reading knowledge of modern Chinese and two years of the classical language. Familiarity with Japanese, though not required, would prove helpful.

SM 749. Japanese for Sinologists. (M) Chance, L.

Prerequisite(s): Completion of JAPAN 112 or the equivalent. Knowledge of Chinese characters.

An accelerated course in scholarly Japanese for Sinologists and others with a knowledge of Chinese characters.

SM 750. Japanese Literature: Research Methods in the Classical Tradition. (M) Chance. Requires Japanese Language.

Introduction to bibliographic tools for research in pre-modern literature. Emphasis on hands-on library work, including how to use libraries in Japan. Covers history and

terminology of bibliography. Students may attend lectures in EALC 152/552 simultaneously, when offered. Final project will use reference tools for substantive research in individual student's area of interest.

SM 752. Modern Japanese Literature and Culture. (M) Kano.

This seminar will focus on selected topics in modern Japanese literature and culture (Meiji to present day) varying from year to year. For advanced graduate students. Permission of instructor required.

SM 754. No and Kyogen: Text and Context. (M) Staff. Prerequisite(s): EALC 552 or equivalent.

Japan's classical theater will be closely read and investigated in terms of certain select literary, intellectual, and social issues of medieval Japan.

SM 755. (COML685) Literary Criticism and Theory in Japanese Literature. (M) Kano.

While the focus of this seminar will shift from year to year, the aim is to enable students to gain 1) a basic understanding of various theoretical approaches to literature, 2) familiarity with the histories and conventions of criticism, literary and otherwise, in Japan; 3) a few theoretical tools to think in complex ways about some of the most interesting and controversial issues of today, such as nationalism, imperialism, colonialism, postmodernism, and feminism, with particular focus on Japan's position in the world. The course is primarily intended for graduate students but is also open to advanced undergraduates with permission of the instructor. The course is taught in English, and all of the readings will be available in English translation. An optional discussion section may be arranged for those students who are able and willing to read and discuss materials in Japanese.

SM 756. Readings in Pre-Modern Japanese Literature. (M) Chance.

Prerequisite(s): EALC 252 Readings in Classical Japanese II, or equivalent.

Continued reading of texts chosen to accord with student interests. Materials may include calligraphed manuscripts and Edo period woodblock texts.

SM 758. Teaching Methods in Japanese. (M) Chance. Requires Japanese Language.

A practicum for Teaching Fellows and others engaged in teaching Japanese language for the first time. It introduces various approaches to teaching foreign

language and surveys current issues in second language acquisition, particularly with respect to the less commonly taught languages. Students write a paper based on their experiences in the classroom.

SM 761. Readings in Japanese Religion. (M) Staff.

SM 762. Ethics and Aesthetics in East Asian Buddhism. (M) Staff.

Prerequisite(s): Knowledge of the Japanese or Chinese language.

SM 770. Japanese Bibliography and Problems of Research. (M) Staff.

Prerequisite(s): JAPAN 312 or equivalent.

Weekly sessions on the works of reference necessary for scholarly work in Japanese sources. Introduction to all main Japanese reference works in religion (Buddhism and Shintism), government, literature, economics, etc. There are weekly assignments to be prepared in the library reference room. For advanced graduate students.

771. (GSWS771) Current Japanology. (M) Staff. Prerequisite(s): Knowledge of reading Japanese.

Major trends in scholarship as reflected in important recent publications, especially formative books and periodical literatures. The trajectory within certain disciplines as well as the interaction among them will be critically evaluated in terms of gains and losses. Implications of these theses in the planning of graduate and postgraduate research.

SM 772. Medieval Japan: Texts and Issues. (M) Staff. Prerequisite(s):

Knowledge of classical Japanese required.

Close readings of selected texts (poetry, drama, historical and religious texts) combined with discussions of major questions in current scholarship on medieval Japan. Guest scholars.

SM 773. Proseminar: Early Modern Japan. (M) Chance, F. Offered through the College of General Studies MLA Program.

This course will examine in detail the Tokugawa, or Edo, period (1600-1868). In weekly class sessions, equal attention will be devoted to institutional (political, economic and social) issues on the one hand, and cultural (art, literature, theater and philosophy/religion) developments on the other. A period in which Japan enjoyed protracted peace and relative isolation from the outside world, Tokugawa Japan experienced tremendous changes across all sectors of society. While the changes were unsettling to Japan's military rulers, they

provided important preconditions for the subsequent modernization of Japan.

SM 774. (HIST630) Readings Modern Japan History. (M) Dickinson.

This graduate seminar will examine the principal debates after 1945 in the writing of modern Japanese history. We will cover the Tokugawa era (1600-1868) through the immediate postwar years and pay special attention to the ways in which analyses of modern Japan have changed over time and across national boundaries (principally, in the United States and Japan). The course aims to give graduate students a firm grasp of the latest scholarship on modern Japan and of some of its most visible personalities. Requirements are structured to offer practical training in several critical aspects of academic life.

SM 780. (HIST630) Readings in Korean History. (M) Park E.

Prerequisite(s): Undergraduates need permission of the instructor.

This course offers a graduate level introduction to the literature of Korean history. It uses a reading list of classic and noteworthy recent texts to help students map the critical questions and debates that have shaped the field. The list is also designed to represent key methodological developments, including gender and transnational histories. The course proceeds as a reading seminar. It meets weekly. The standard writing requirement is a book review and a historiographical paper on a topic of the student's choosing. Students are also welcome to write their second-year research paper in conjunction with the seminar.

CHINESE LANGUAGE COURSES (CHIN)

001. First Year Spoken Chinese I. (A)

Dietrich. See LPS Course Guide. ** This course fulfills LPS language requirement only. It does not fulfill the language requirement for other colleges. only.

This course is designed for students who have little or no previous exposure to Chinese. The main objective of the course is to help students develop their listening and speaking skills. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the second semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods, asking for directions. Chinese characters will not be taught.

002. First Year Spoken Chinese II. (B)

Dietrich. Prerequisite(s): CHIN001 or permission of the instructor. See LPS Course Guide. ** This course fulfills LPS language requirement only. It does not fulfill the language requirement for other colleges.

A continuation of CHIN001, This course is to help students develop their listening and speaking skills. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods, asking for directions. To achieve this goal, the class is to be conducted in Chinese as much as possible. Chinese characters will also be introduced, but will not be the focus of the class.

003. Second Year Spoken Chinese I. (A)

Dietrich. Prerequisite(s): CHIN002 or permission of the instructor. See LPS Course Guide. ** This course fulfills LPS language requirement only. It does not fulfill the language requirement for other colleges.

This course is designed for students who have completed one year of college level Chinese classes or equivalent. The main objective of the course is to improve students' conversational ability in Chinese. By the end of the second semester, students will reach the survival level, namely, they can accomplish the basic day to day tasks encountered by visitors as well as the local people. These tasks include relating one's personal life and experiences, expressing preference, feeling and opinion, ordering a meal, purchasing goods, asking for directions, making travel plans, visiting a doctor, attending a social function and so forth. Short Chinese movies or television shows will be integrated into the course curriculum. Chinese character will not be taught.

004. 2nd Year Spoken Chinese II. (B)

Dietrich. Prerequisite(s): CHIN003 or permission of the instructor. See LPS Course Guide. ** This course fulfills LPS language requirement only. It does not fulfill the language requirement for other colleges.

This course is the continuation of CHIN003. The primary goal of the course is to improve students' conversational ability in Chinese. By the end of the semester, students will reach the survival level, namely, they can accomplish the basic day to day tasks encountered by

visitors as well as the local people. These tasks include relating one's personal life and experiences, expressing preference, feeling and opinion, ordering a meal, purchasing goods, asking directions, making travel plans, visiting a doctor, attending a social function and so forth. Short Chinese movies or television shows will be integrated into the course curriculum. Chinese character will not be taught.

011. Beginning Modern Chinese I. (A)

Dietrich.

Along with CHIN012, CHIN111 and CHIN112, this is the first course of a four-semester sequence. By completing all four semesters, students fulfill the College language requirement. The sequence starts each fall. Students cannot begin their study in the spring. This course is designed primarily for students who have little or no prior exposure to Chinese. The objective of the course is to help students build a solid foundation of the four basic skills--listening, speaking, reading, and writing in an interactive and communicative learning environment. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the second semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods and asking for directions.

This course is designed primarily for students who have little or no prior exposure to Chinese. The objective of the course is to help students build a solid foundation of the four basic skills--listening, speaking, reading, and writing in an interactive and communicative learning environment. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the second semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods and asking for directions. In order to achieve these goals, students are expected to thoroughly preview and review the materials according to the weekly lesson plan (on course website) prior to attending class. Regular attendance is mandatory and strictly monitored.

012. Beginning Modern Chinese II. (B) Dietrich. Prerequisite(s): CHIN011 or permission of the instructor. Along with CHIN011, CHIN111 and CHIN112, this is the second course in a four-semester sequence. By completing all four semesters, students fulfill the College language requirement.

This course is the continuation of CHIN 011. The objective of the course is to help students build a solid foundation of the four basic skills--listening, speaking, reading, and writing in an interactive and communicative learning environment. The emphasis is on correct pronunciation, accurate tones and mastery of basic grammatical structures. By the end of the second semester, students will be able to manage many situations that have immediate concern to them, such as relating one's personal life and experiences, expressing preferences and feelings, ordering meals, purchasing goods and asking for directions.

021. Intensive Beginning Modern Chinese I & II. (A) Staff. Designed for students who have had limited prior exposure to some form of Chinese (Mandarin or other dialects), but inadequate to advance to the intermediate level.

This is a two-semester course covering the same material as CHIN011, CHIN012, CHIN111 and CHIN112. The main objective of the course is to help students build a solid foundation of the four basic skills--listening, speaking, reading, and writing Chinese. By the end of this course and CHIN022, students should achieve the following goals: 1) pronounce all the sounds in Mandarin Chinese accurately and comfortably with a good command of the 4 tones; 2) carry out basic conversations in daily activities; 3) recognize and reproduce approximately 600-650 characters; and 4) read edited simple stories and write short notes or letters. Grammatical and cultural related issues are discussed during lecture hours. Oral communication tasks are given every week.

022. Intensive Beginning Modern Chinese III & IV. (B) Staff. Prerequisite(s): CHIN021 or permission of the instructor. Designed for students who have had limited prior exposure to some form of Chinese (Mandarin or other dialects), but inadequate to advance to the intermediate level.

Designed for students who have had limited prior exposure to some form of Chinese (Mandarin or other dialects), but inadequate to advance to the intermediate level.

031. Beginning Reading and Writing in Chinese I (for Fluent Speakers). (A) Wu. Prerequisite(s): Restricted to students who can speak Chinese but cannot read or write the language.

Students focus on reading and writing skills. The objective of the course is to lay a solid foundation in both Pinyin romanization and Chinese characters, learning to produce and recognize approximately 600-650 characters. The class provides preparation for Intermediate Modern Chinese.

032. Beginning Reading and Writing in Chinese II (for Fluent Speakers). (B) Wu. Prerequisite(s): CHIN 031 or permission of the instructor.

041. Beginning Cantonese I. (A) Staff. Offered through the Penn Language Center. This course does not fulfill the College of Arts & Sciences' language requirement.

Beginning Cantonese is a preliminary course for spoken Cantonese. The course provides fundamental aspects of the dialect as experienced in daily life situations and will enable students to communicate in Cantonese for daily life needs, such as making phone calls, making purchases, getting around by various means of transportation, seeing a doctor, being a guest or a host at dinner, talking about the weather, talking about sports and entertainment, etc. The course will be completed in two semesters.

042. Beginning Cantonese II. (B) Staff. Prerequisite(s): CHIN041 or permission of the instructor. Offered through the Penn Language Center. This course does not count toward the language requirement in the College of Arts and Sciences.

Beginning Cantonese is a preliminary course for spoken Cantonese. The course provides fundamental aspects of the dialect as experienced in daily life situations and will enable students to communicate in Cantonese for daily life needs, such as making phone calls, making purchases, getting around by various means of transportation, seeing a doctor, being a guest or a host at dinner, talking about the weather, talking about sports and entertainment, etc. The course will be completed in two semesters.

051. Beginning Taiwanese I. (A) Wu. Offered through the Penn Language Center. Beginning Taiwanese CHIN 051 is designed to help you learn enough about Taiwanese to enable you to handle your needs adequately if you travel to Taiwan. At this survival level, you will learn to

greet others, introduce yourself and handle basic social situations. You will also acquire the understanding of oral language typically heard in locations such as grocery store, train station, bus stop and night market. Self study and classroom participation are equally important for this course. You should complete each assignment before class so that the teacher may review the work. You should attend individual session regularly. You will have four quizzes and one final oral test. The preparation should include memorizing dialogue and listening to audio files.

052. Beginning Taiwanese II. (B) Wu. Prerequisite(s): CHIN 051 or permission of the instructor.

081. Beginning Business Chinese I. (M) Staff. Prerequisite(s): This course does not fulfill the language requirement in the College. First meeting mandatory.

The course is designed for students and working professionals who have no prior exposure to Chinese, and are interested in conducting business in China. The objective of this course is to build a solid foundation of basic Chinese in the business context, with a main focus on speaking and listening. Upon Completion students are expected to be able to converse and interact with people in a variety of business settings. Topics in the course units include meeting people, talking about family, introducing companies, making inquiries and appointments, visiting company, introducing products, initiating dining invitations and practicing dining etiquette.

111. Beginning Chinese III (Non-Intensive). (A) Staff. Prerequisite(s): Completion of CHIN012 or the equivalent or permission of the instructor.

Along with CHIN011, CHIN012 and CHIN112, this is the third course in a four-semester sequence. The objective of the course is to continue building a solid foundation of the four basic skills--listening, speaking, reading and writing. By the end of this course, students should achieve the following goals: 1) pronounce all the sounds in Mandarin accurately and comfortably with a good command of the four tones; 2) carry out simple dialogues of familiar topics; 3) recognize and reproduce approximately 450-500 characters; and 4) read short textbook stories and write simple notes. In order to develop students' listening and speaking ability, oral communication tasks are given on each lesson.

112. Beginning Chinese IV. (B) Staff.

Along with CHIN011, CHIN012 and CHIN111, this is the fourth course in a four-semester sequence. The objective of the course is to continue building a solid foundation of the four basic skills--listening, speaking, reading and writing. By the end of this course, students should achieve the following goals: 1) pronounce all the sounds in Mandarin accurately and comfortably with a good command of the four tones; 2) carry out simple dialogues of familiar topics; 3) recognize and reproduce approximately 600-650 characters; and 4) read short textbook stories and write simple notes. In order to develop students' listening and speaking ability, oral communication tasks are given every other week.

141. Intermediate Cantonese I. (A)

Staff. Prerequisite(s): CHIN042 or equivalent or permission of the instructor. Offered through the Penn Language Center.

Intermediate Cantonese is a course for students who are able to communicate in the dialect in basic survival situations. Through this course the students will acquire a better understanding of Cantonese and its related culture, and can confidently cope with a wide range of situations. Classes will be conducted through Cantonese textbooks, discussions of various topics, and composition and presentation of students' own dialogues so that in time they may express more complex ideas and feelings. The course will be completed in two semesters.

142. Intermediate Cantonese II. (B)

Staff. Prerequisite(s): CHIN 141 or permission of instructor. Offered through the Penn Language Center.

Intermediate Cantonese is a course for students who are able to communicate in the dialect in basic survival situations. Through this course the students will acquire a better understanding of Cantonese and its related culture, and can confidently cope with a wide range of situations. Classes will be conducted through Cantonese textbooks, discussions of various topics, and composition and presentation of students' own dialogues so that in time they may express more complex ideas and feelings. The course will be completed in two semesters.

151. Intermediate Taiwanese I. (A)

Wu. Prerequisite(s): CHIN052 or equivalent or permission of the instructor. Offered through Penn Language Center.

A continuation of CHIN052, the spoken and written Taiwanese language.

152. Intermediate Taiwanese II. (B)

Staff. Prerequisite(s): Completion of the second semester of CHIN 151 or permission of the instructor. Offered through the Penn Language Center.

211. Intermediate Modern Chinese I. (A)

Lee. Prerequisite(s): CHIN112 or permission of the instructor.

This is an intermediate language course. It aims to develop students' overall linguistic skills in listening, speaking, reading, and writing Chinese. The specially designed textbook gives introduction to various topics on Chinese culture. Students can expect to gain knowledge about China while they are learning the language. By completion of the course, students are expected to be able to master 1200 most frequently used characters in common reading materials, and to communicate with Chinese on

212. Intermediate Modern Chinese II. (B)

Lee. Prerequisite(s): CHIN 211 or permission of the instructor.

231. Intermediate Reading and Writing Chinese I (for Fluent Speakers). (A)

Wu. Prerequisite(s): CHIN 032 or the equivalent or permission of the instructor. Restricted to fluent speakers who have only limited reading and writing abilities.

This is an intermediate language class presuming basic fluency in speaking and listening and focusing on reading and writing abilities. By the end of the class students are expected to have mastered 1200 most commonly used characters and to have the ability to read basic Chinese texts. Students will be prepared for Advanced Modern Chinese or the commercial track.

232. Intermediate Reading and Writing Chinese II (for Fluent Speakers). (B)

Wu. Prerequisite(s): CHIN 231 or permission of the instructor.

This is an intermediate language class presuming basic fluency in speaking and listening and focusing on reading and writing abilities. By the end of the semester students are expected to have mastered the 1200 most commonly used characters and to have the ability to read basic Chinese texts. Students will be prepared for Advanced Modern Chinese or the commercial track.

311. Advanced Modern Chinese I. (A)

Staff. Prerequisite(s): CHIN 212 or permission of the instructor.

Students learn to work on materials which were written or produced for native

speakers, instead of the classroom materials that were written for the non-native speakers. The reading materials include a larger vocabulary with more idioms. Students will also learn how to understand and use certain oral expressions in conversation. They will learn ways to narrate, to describe, and to comment in native Chinese ways. Reading and audio materials are provided and discussed in the classes. Writing and oral presentations in Chinese are required in classroom under instruction. Students will be encouraged to practice oral communication with each other.

312. Advanced Modern Chinese II. (B)

Jiao. Prerequisite(s): CHIN 311 or permission of the instructor.

A continuation of CHIN 311 with more reading and discussions on social and cultural topics.

331. Advanced Chinese Reading and Writing. (C)

Chiang. Prerequisite(s):

CHIN 312 or permission of the instructor.

Designed for students with advanced level Chinese language training but who need some further refinements on pronunciation, grammar, and vocabulary usage, this course stresses oral discussion, composition, and accuracy of language performance. By reading texts written by contemporary writers, students will also gain knowledge of China from an analytical and comparative perspective.

361. Media Chinese I. (A)

Chiang. Prerequisite(s): Completion of CHIN 232, 311, 331 or permission of the instructor.

This course will help students improve their language skills, and enlarge vocabulary through reading newspapers published in China in the target language. The students will learn formal and high-level vocabulary and enhance their grammatical accuracy. The class will be conducted in Chinese, and students will be encouraged to speak Chinese in class using the acquired vocabulary and grammatical patterns.

362. Newspaper Chinese II. (B)

Staff. Prerequisite(s): CHIN 631 or permission of the instructor.

A continuation of CHIN 361.

371. Advanced Spoken Mandarin I. (A)

Lee. Prerequisite(s): CHIN 212 or permission of the instructor.

This course is designed for students who have completed at least the intermediate level Chinese language course, or have studied the language for at least three years. The objective of this course is to consolidate the knowledge and skills

students have acquired from their previous Mandarin Chinese classes and to enhance their oral expressive skills. By the end of the semester, students are expected to be able to carry on a conversation with a native Mandarin speaker on various common topics, including the current issues in China about its education, society, politics, culture, and history. Students will also learn how to gather information necessary for conducting oral presentations and speeches.

372. Advanced Spoken Mandarin II. (B) Lee. Prerequisite(s): CHIN 212 or permission of the instructor.

Following the format of Advanced Spoken Mandarin I with more discussions on current issues in both China and the US, including topics ranging from race, religion, gender issues to internet, cinema and pop cultures. The objective of this course is to consolidate the knowledge and skills students have acquired from their previous Mandarin Chinese classes and to enhance their oral expressive skills. By the end of the semester, students are expected to be able to carry on a conversation with a native Mandarin speaker on various common topics, and to gather information necessary for conducting oral presentations and speeches.

381. (CHIN581) Business Chinese I. (A) Wang. Prerequisite(s): CHIN 232, 312 or permission of the instructor.

This course is aimed to enhance students' language skills in a business context and to promote their understanding about business environment and culture in contemporary China. The text is developed from real business cases from real multinational companies that have successfully embarked on the Chinese market. The forms of classes include lectures, drills on vocabulary and sentence patterns, and discussions. Class will be conducted in Chinese. In addition to the course textbook, students will learn to read business news in Chinese selected from Wall Street Journal.

382. (CHIN582) Business Chinese II. (B) Wang. Prerequisite(s): CHIN 312, 361, 381 or permission from the instructor.

This course is the second half of a one-year course for business oriented subjects. This course will provide an overview of China's changing macro-environment, while real business cases let us look into individual Chinese companies and their development in the new millennium. By the end of the semester, students are expected to 1) enhance the cultural awareness of contemporary China and the Chinese business world; 2) gain vocabulary and

fluency in Chinese to function more confidently and comfortably in real business settings; 3) access business news and information in Chinese; 4) give business presentation in Chinese.

411. Readings in Modern Chinese: Literature. (A) Dietrich. Prerequisite(s): CHIN 331, 361, 382 or permission of the instructor.

This course is designed for students who have completed three years of college level Mandarin classes or equivalent. This course may be used to fulfill language or elective requirement for Chinese major or minor. The objectives of the course are 1) to help students gain an in-depth, multi-faceted and critical understanding of Chinese people, Chinese society and Chinese culture; 2) to facilitate students' acquisition of formal or written language; and 3) to develop students' analytical and critical thinking skills. These objectives are achieved primarily through 1) close reading and discussion of original literary texts by 20th -century Chinese writers; and 2) regular writing exercises. Students will also view several Chinese films that are related to the topics of the reading text. The class is to be conducted exclusively in Chinese.

412. Readings Modern Chinese II: Literature. (B) Dietrich. Prerequisite(s): CHIN 331, 361, 382 or permission of the instructor.

The main difference between this course and CHIN411 is the reading materials and topics. This course is designed for students who have completed a minimum of three years of college level Mandarin classes or equivalent. This course may be used to fulfill language or elective requirement for Chinese major or minor. The objectives of the course are 1) to help students gain an in-depth, multi-faceted and critical understanding of Chinese people, Chinese society and Chinese culture; 2) to facilitate students acquisition of formal or written language; and 3) to develop students' analytical and critical thinking skills. These objectives are achieved primarily through 1) close reading and discussion of original literary texts by 20th-century Chinese writers; and 2) regular writing exercises. Students will also view several Chinese films that are related to the topics of the reading text. The class is to be conducted exclusively in Chinese.

415. Readings Modern Chinese Documents. (M) Chiang. Prerequisite(s): CHIN 361, 381, 411 or permission of the instructor.

The main purpose of this content-based course is to promote advance-level language proficiency in reading, writing, speaking and listening. Through the use of modern Chinese documents, the secondary purpose of this course is to facilitate your understanding of the changes of Chinese society in the 20th century. Topics will include the Constitution of China, China's legal system, speeches by Mao Zedong, Deng Xiaoping, Sun Yet-san and Qiu Jin.

471. Advanced Spoken Mandarin III. (C) Staff. Prerequisite(s): CHIN 312 or the equivalent, or permission of the instructor.

This course is designed for students who have completed at least the intermediate advanced level Chinese language course (CHIN-311 & CHIN-312) at University of Pennsylvania, or equivalent level. The objective of this course is to consolidate the knowledge and skills students have acquired from their previous Mandarin Chinese classes and to enhance their oral expressive skills. Students in this course are already able to carry on a conversation with a Mandarin speaker on various social topics, and this course is much more focused on Chinese pop culture from early 20th century till now.

481. Advanced Business Chinese I. (A) Chiang. Prerequisite(s): CHIN382 or equivalent or permission of the instructor. May be offered through Penn Language Center.

This course provides students with the conceptual framework to understand issues China has been facing since its economic reform in 1978. Topics include WTO principles, the change of China's state-owned enterprises, China's economy in Mao's period, and the pros and cons of globalization. Students will be trained in reading financial articles, discussing international trades, conducting online research and giving business presentations. After the course, students will become more sophisticated in their understanding of China's economic development and in using Chinese business terminology at professional settings. The course assumes basic background in business and advanced level proficiency in Chinese language. The course is NOT open to freshman with no undergraduate business course.

482. Advanced Business Chinese II. (B) Chiang. Prerequisite(s): CHIN 481 or permission of the instructor.

Following the format of Advanced Business Chinese I, this course covers topics on Eastern and Western management styles, the global financial market, China's financial market reforms, and mergers and acquisitions in China. The course is NOT open to freshman with no undergraduate business course.

491. (EALC221, EALC621) First Year Classical Chinese I. (A) Mair.

Introduction to the classical written language, beginning with Shadick, First Course in Literary Chinese. Students with a background in Japanese, Korean, Cantonese, Taiwanese, and other East Asian languages are welcome; it is not necessary to know Mandarin. The course begins from scratch, and swiftly but rigorously develops the ability to read a wide variety of classical and semi-classical styles. Original texts from the 6th century BC to the 20th century AD are studied. This course is taught in English and there are no prerequisites.

492. (EALC222, EALC622) 1st Year Classical Chin II. (B) Mair.

Continuation of CHIN491 EALC221/621, which is the only prerequisite for this course. Upon completion of Shadick, readings in a wide selection of texts with Chinese commentaries may be taken up. These readings are in part chosen to reflect student interest. This is the second half of a year-long course. Those who enroll must take both semesters.

510. Topics in Chinese Culture. (B) Chiang. Prerequisite(s): CHIN 411, 481 or permission of the instructor.

The objective of this superior level content course is to extend and refine students' language and analytical skills while enhancing the appreciation of Chinese culture. The course is for students with native-like competence in Mandarin. Each class will proceed from reading, reflection, and interpretation, to the exchange of ideas. All reading materials are in Chinese with no glossary and all are written by scholars whose expertise are with in contemporary and traditional culture of China, or in comparative study of Chinese and Western thoughts. Topics include: (1) the shared beliefs and behaviors of Chinese people; (2) traditional values and new values in the technological and business society; (3) how affection and love are manifested in Chinese culture; (4) what influenced the surge of popularity of Chinese wuxia fiction; (5) what it meant to be descendants

of Chinese (huayi) living outside China. The class is conducted exclusively in Mandarin Chinese.

515. Topics in Chinese Literature. (M) Dietrich. Prerequisite(s): CHIN 411,

CHIN 412, CHIN 415, 481, 482 or permission of the instructor.

This course surveys the literary movements of the post-Cultural Revolution era (1978-present). The reading consists of fictional works representative of each literary movement. Students will write four short (1-2 pages, double space) "responding" papers and two longer critical essays (5-7 pages double spaced). Each student will also give one oral presentation to the class on an assigned story. This course is designed for students who have achieved native or near native level of reading and writing proficiency in Chinese. The class is conducted exclusively in Chinese.

621. (CHIN491, EALC221) First Year Classical Chinese I. (A) Mair.

Introduction to the classical written language, beginning with Shadick, First Course in Literary Chinese. Students with a background in Japanese, Korean, Cantonese, Taiwanese, and other East Asian languages are welcome; it is not necessary to know Mandarin. The course begins from scratch, and swiftly but rigorously develops the ability to read a wide variety of classical and semi-classical styles. Original texts from the 6th century BC to the 20th century AD are studied. This course is taught in English and there are no prerequisites.

622. (CHIN492, EALC222) 1st Year Classical Chin II. (B) Mair.

Prerequisite(s): None.

Continuation of CHIN491 EALC221/621, which is the only prerequisite for this course. Upon completion of Shadick, readings in a wide selection of texts with Chinese commentaries may be taken up. These readings are in part chosen to reflect student interest. This is the second half of a year-long course. Those who enroll must take both semesters.

JAPANESE LANGUAGE COURSES (JPAN)

002. Introduction to Spoken

Japanese II. (B) Staff. Prerequisite(s): Completion of JPAN 001 or the equivalent. See LPS Course Guide. **This course does not fulfill the language requirement in the College.

Although some reading/writing instruction is given, the major emphasis is on oral communication skill.

011. Beginning Japanese I. (A) Staff. Prerequisite(s): None.

Intended for students who have no Japanese background. All four skills, speaking/listening/writing/reading, are equally emphasized. Hiragana/Katakana (Two sets of Japanese syllabic letters) and some Chinese characters (Kanji) are introduced. Textbooks: Yookoso I (Getting Started - Chapt. 3) and basic Kanji Book I (L.1-L.4) Kanji: reproduction-approx.50/recognition-approx.80

012. Beginning Japanese II. (B) Staff. Prerequisite(s): Completion of JPAN 011 or the equivalent.

Textbooks: Yookoso I (Chapt. 4 - Chapt. 7) and Basic Kanji Book I (L.5 - L.10) Kanji: reproduction-approx. 110/recognition-approx.200

021. Intensive Beginning Japanese I. (A) Staff.

Intended for students with little or no background in Japanese who wish to finish the language requirement in one year. (Equivalent to JPAN 011 + JPAN 012) Textbooks: Yookoso I and Basic Kanji Book I (L.1-L.10) Kanji: reproduction-approx.110/recognition-approx.200

022. Intensive Beginning Japanese II. (B) Staff. Prerequisite(s): completion of JPAN 021 or the equivalent.

This course is the equivalent to JPAN 111 + JPAN 112, and completes the College language requirement. Textbooks: Yookoso II and Basic kanji book I (L.11 - L.22) Kanji: reproduction-approx.250/recognition-approx 350

111. Beginning Japanese III. (A) Staff. Prerequisite(s): Completion of JPAN 012 or the equivalent.

Continuation of JPAN 012. Textbooks: Yookoso II (Do You Remember-Chapt. 3) and Basic Kanji Book I (L.11 - L.16) Kanji: reproduction-approx.170/recognition-approx.250

112. Beginning Japanese IV. (B) Staff.

Prerequisite(s): Completion of JPAN 111 or the equivalent.

This course completes the College language requirement. Textbooks: Yookoso II (Chapt. 4 - Chapt. 7) & Basic Kanji Book I (L.17-L.22) Kanji: reproduction-approx.250/recognition-approx.350

211. Intermediate Japanese I. (A)

Staff. Prerequisite(s): Completion of JPAN 112 or JPAN 022 or the equivalent.

A continuation of Japanese language beyond the language requirement. Textbooks: Integrated Approach to Intermediate Japanese (L.1 - L.8), and Basic Kanji Book II (L.23 - L.30) Kanji: reproduction-approx.310/recognition-approx.400

212. Intermediate Japanese II. (B)

Staff. Prerequisite(s): Completion of JPAN 211 or the equivalent.

A continuation of Japanese language at the intermediate level Text books: Integrated Approach to the Intermediate Japanese (L.9 - L.15) and Basic Kanji Book I (L.31 - L.37) Kanji: reproduction-approx.370/recognition-approx.450

311. (JPAN611) Intermediate

Japanese III. (A) Takami. Prerequisite(s): Completion of JPAN 212 or the equivalent.

This course is a continuation of Japanese language at the upper intermediate level, and authentic reading/listening materials are introduced besides the textbooks. Textbooks: Tobira: Gateway to Advanced Japanese (L.1 - L.7, Basic Kanji Book II (L.37 - L.45), Kanji: reproduction-approx.500/recognition-approx.550

312. (JPAN612) Intermediate Japanese IV. (B) Takami.

Prerequisite(s): Completion of JPAN 311 or the equivalent.

Textbooks: Textbooks: Tobira: Gateway to Advanced Japanese L.8-L.14, and selected video materials. Kanji: reproduction-approx.550/recognition-approx.700

381. Japanese for the Professions. (A)

Takami. Prerequisite(s): Completion of JPAN 212 or the equivalent. Offered through Penn Language Center.

An intermediate level course of Japanese language focusing on workplace-related topics. Intended for students who will use Japanese in the professions. Textbook: Powering Up Your Japanese Through Case Studies: Intermediate and Advanced Japanese.

382. (JPAN682) Japanese for the Professions II. (B) Takami.

Prerequisite(s): Completion of JPAN 381 or the equivalent. Offered through the Penn Language Center.

An intermediate level course of Japanese language focusing on workplace-related topics. Intended for students who will use Japanese in the professions. Textbook: Powering Up Your Japanese Through Case Studies: Intermediate and Advanced Japanese.

411. Advanced Japanese I. (A) Staff.

Prerequisite(s): Completion of JPAN 312 or the equivalent.

Minimum 600 - 700 kanji knowledge is expected. A continuation of Japanese language beyond the intermediate level.

412. Advanced Japanese II. (B) Staff.

Prerequisite(s): Completion of JPAN 411 or the equivalent.

481. Advanced Japanese for

Proficiency I. (A) Staff. Prerequisite(s): Completion of the JPAN 312 or 382 or the equivalent. Offered through Penn Language Center.

This course is for students with an advanced background in Japanese, who are interested in taking at least the Level 2 Japanese Proficiency Test. Solid grammar, an extensive vocabulary, and the knowledge of at least 800-900 Chinese characters is required. This course is not continuous with any existing 300-level Japanese course; therefore, your grade from a 300-level course does not qualify you to take this course. Eligibility will be determined through an interview and placement test taken in the first meeting. All students who take this course are required to take the Japanese Proficiency Test in December.

Since the JLPT is administered in December every year, if you wish to fully prepare for the test, the instructor strongly recommends that you take JPAN 482 first in the spring of the same year. For example, if you plan to take the test in December, 2010, start taking 482 in the spring 2010 and take 481 in the fall 2010. Different from other courses, this full-year course begins in the spring and ends in the fall, because the test is given in December. However, participation in 482 is optional.

482. Advanced Japanese for

Proficiency II. (B) Staff. Prerequisite(s): Japanese proficiency test and permission of instructor. Offered through the Penn Language Center.

This course is for students with an advanced-low or advanced-mid background

in Japanese, aiming to strengthen the four language skills (speaking, reading, writing, and listening) and to deepen their understanding of Japanese culture. The class will use authentic Japanese through media, such as newspapers, television, and articles, regarding Japanese culture and society as well as current news. Students will narrate, describe, and express their opinions with details, examples, and strong reasoning, using sophisticated terms and phrases related such topics.

491. (EALC251, EALC651) Readings in Classical Japanese I. (A) Chance, L.

Prerequisite(s): Completion of JPAN 212 or equivalent.

Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.

492. (EALC252, EALC652) Readings in Classical Japanese II. (B) Chance.

Prerequisite(s): JPAN 212.

Readings in classical texts drawn from the Heian, Kamakura, Muromachi, and Edo periods. Introduction to the different styles of classical Japanese, and to classical Japanese as a whole.

511. Readings in Advanced

Japanese. (G) Staff. Prerequisite(s): Completion of JPAN 412 or the equivalent.

Readings in advanced literary and journalistic texts written in modern Japanese.

512. Readings Advanced Japanese

II. (D) Staff. Prerequisite(s): Completion of JPAN 511 or the equivalent.

Readings in advanced literary and journalistic texts written in modern Japanese.

611. (JPAN311) INTERMED JAPANESE III. (A)**612. (JPAN312) Intermediate Japanese IV. (B)****682. (JPAN382) Japanese for the Professions II. (B)** Takami.

Prerequisite(s): Completion of JPAN 381 or the equivalent. Offered through the Penn Language Center.

An intermediate level course of Japanese language focusing on workplace-related topics. Intended for students who will use Japanese in the professions. Textbook: Powering Up Your Japanese Through Case Studies: Intermediate and Advanced Japanese.

**KOREAN LANGUAGE COURSES
(KORN)****011. Elementary Korean I. (A)** Staff.

This course is designed for students who have little or no knowledge of Korean. This course aims to develop foundational reading, writing, listening, and speaking skills through meaningful communicative activities and tasks. Upon successful completion of this course, students should be able to comprehend and carry on simple daily conversations and create simple sentences in the past, present, and future tenses. Students will learn how to introduce themselves, describe their surroundings, talk about daily lives, friends and relatives, and talk about past and future events.

012. Elementary Korean II. (B) Staff.

Prerequisite(s): Completion of KORN 011 or equivalent knowledge and permission of the instructor.

This is a continuation of KORN 011. This course aims to further develop the four language skills of students to the novice-high level by building on materials covered in KORN 011. Students will learn how to use three speech styles (polite formal, informal, and intimate) appropriately in a given context. Upon successful completion of this course, students should be able to handle simple and elementary needs of daily lives and talk (and write) about a variety of topics such as family, college life, birthday celebration, shopping, Korean food, etc.

111. Intermediate Korean I. (A) Staff.

Prerequisite(s): Completion of KORN 012 or equivalent knowledge and permission of the instructor.

This is a continuation of KORN 012. This course is designed to develop students' Korean language proficiency to the intermediate-low level of the ACTFL Proficiency Guidelines. Authentic materials, as well as various student-centered activities that are highly contextualized in everyday interactions will be used. Upon completion of the course, students will be able to present and exchange information on a variety of topics such as weather, fashion, travel, mailing, housing, public transportation, and shopping.

112. Intermediate Korean II. (B) Staff.

Prerequisite(s): Completion of KORN 111 or equivalent knowledge and permission of the instructor.

This is a continuation of KORN 111. This course is designed to develop students' Korean language proficiency to the

intermediate-mid level of the ACTFL Proficiency Guidelines. This course expands student's competence by dealing with more functions in various contexts that students can frequently encounter in everyday interactions. In order to prepare students for social contexts, students are encouraged to engage in conversations by personalizing the topics, functions or contexts. Students will perform in an interpersonal way by providing and obtaining information, expressing feelings and emotions, and exchanging opinions on a variety of topics such as birthday parties, recreation and hobbies, Korean holidays, marriage, cultural differences, education and jobs. This course completes the College language requirement.

131. Korean for Heritage Speakers I.

(A) Jung. Prerequisite(s): Restricted to students who have previous knowledge in Korean. Students are required to take the Korean placement test.

This course is designed for heritage speakers who have a strong background in everyday Korean. This course focuses on enhancing linguistic accuracy (spelling, grammar, vocabulary, pronunciation) and fluency (idiomatic and figurative expressions, narrative structure, discursive practice) in both spoken and written Korean, as well as gaining a deeper understanding of Korean culture. Upon completion of the course, students will be able to express themselves more accurately and participate in Korea-related communities more meaningfully. This course and its subsequent course KORN 132 complete the College language requirement.

132. Korean for Heritage Speakers II.

(B) Jung. Prerequisite(s): Completion of KORN 131 or equivalent knowledge and permission of the instructor.

This course is a continuation of KORN 131 and aims to further develop students' linguistic and cultural competence by building on materials covered in KORN 131. In addition to gaining a deeper understanding of Korean culture, the course focuses on enhancing linguistic accuracy and fluency in both spoken and written Korean. Particular emphasis will be placed on building a meaningful Korean-speaking community, as well as consolidation of grammar structures, and expansion and enhancement of vocabulary. Topics include preparing for a trip to Korea, finding housing, college culture in Korea, entertainment and participating in various social events. Upon completion of this course, students will be able to express themselves more accurately and participate

in Korea-related communities more meaningfully. This course completes the College language requirement.

211. Advanced Korean I. (A) Cho. Prerequisite(s): Completion of KORN 112, 132 or equivalent knowledge and permission of the instructor.

This course aims to develop functional proficiency in Korean at the intermediate-high level. Students will develop competence in fluency, grammatical accuracy and socio-linguistic/cultural appropriateness through a variety of activities and assignments. In addition, students will learn to communicate using more sophisticated grammatical structures and advanced vocabulary on various topics. The development of each of the four language skills (speaking, listening, reading and writing) is equally emphasized.

212. Advanced Korean II. (B) Cho.

Prerequisite(s): Completion of KORN 211 or equivalent knowledge and permission of the instructor.

This is a continuation of KORN 211. Students continue to develop functional proficiency in Korean at the advanced-low level. The topics include literature, culture, Korean customs, and social issues in contemporary Korea.

281. BUSINESS COMM IN KOREAN.

(A) Cho. Prerequisite(s): completion of KORN 211 or equivalent knowledge and permission of the instructor.

Offered through the Penn Language Center. This course is designed to help students improve their Korean language proficiency by learning essential communication skills necessary to engage in business in Korea. Students will also develop their knowledge of and competence in Korean business culture and practice. The course objectives include: (1) to learn essential business terms, advanced grammar structures and communication strategies in business transactions; (2) to learn Korean business customs and culture, work norms, and business etiquette that students need to successfully communicate in a Korean business context. Topics include job application, business correspondence and reports, discussion and presentation in business meetings, communication styles and strategies in business contexts, current business culture, etc.

381. Business Korean I. (M) Cho.

Prerequisite(s): Completion of KORN 212 or equivalent knowledge and permission of the instructor.

Offered through the Penn Language Center. Business Korean I is designed for students

who want to sharpen their Korean language skills to the advanced-high level by focusing their study on Korean business and economy. Students will learn business/economy-related terminologies and concepts. They will also take an in-depth look at the issues related to business practices and environment in Korea. Students will improve and refine their language skills through actively participating in discussions, research, and presentations.

382. Business Korean II. (M) Cho.

Prerequisite(s): Completion of KORN 381 or equivalent knowledge and permission of the instructor.

Offered through the Penn Language Center. A continuation of the material offered in KORN 381. Business Korean I. Students further develop their Korean language proficiency at the advance-high level by studying case studies, participating in discussions, and doing research and giving presentations on the topic of current Korean business and economy.

431. Advanced Readings Modern Korean I. (M) Jung.

Prerequisite(s): Completion of KORN 312, 382 or equivalent knowledge and permission of the instructor.

This course is designed for advanced level students. Based on literary pieces in the form of short stories, essays, and novels, students are to gain an in-depth, multi-faceted and critical understanding of Korean people, society, and culture. These objectives are achieved primarily through 1) close reading and discussion of original literary texts by 20th -century Korean writers; and 2) regular writing exercises. Some Korean films that are related to the topics of the reading text will be used.

432. Advanced Readings in Modern Korean II. (B) Jung.

Prerequisite(s): Completion of KORN 431 or equivalent knowledge and permission of the instructor.

This course allows development of creative and analytical thinking through introduction of more organized thematic topics such as family, human relationships, and the reflection of self-images, and individual's mental status while the society changes in time.

481. Advanced Business Korean I. (A) Staff.

Prerequisite(s): Completion of 312, 382 or equivalent knowledge and permission of the instructor.

Offered through the Penn Language Center. This course aims to further develop

students' advanced language proficiency and simultaneously deepen their knowledge and understanding of specific areas related to Korean business and economy such as an expansion of business into Asian markets and globalization strategies. Through research, discussion and presentation on various case studies and other business-related materials, students will enhance their critical thinking skills and gain an in-depth perspective on issues related to contemporary Korean business operations and practices.

482. Advanced Business Korean II. (B) Staff.

Prerequisite(s): Completion of KORN 481 or equivalent knowledge and permission of the instructor.

Offered through the Penn Language Center. A continuation of the material offered in KORN 481: Advanced Business Korean I. Students continue to closely follow the current topics of business and financial markets of Korea by actively participating in discussions, research, and presentations.

OTHER ASIAN LANGUAGE COURSES (ALAN)

110. Elementary Vietnamese I & II. (C) Nguyen.

Prerequisite(s): For the second semester, completion of the first semester or permission of the instructor. Offered through the Penn Language Center.

An introduction to the language of North and South Vietnam. Instruction includes reading, writing, speaking and listening.

120. Beginning Filipino I & II. (E) Juliano.

Prerequisite(s): For the second semester, completion of the first semester of ALAN 120 or permission of the instructor. Offered through the Penn Language Center.

An introduction to the spoken and written Tagalog (Filipino) language. This will prepare and develop students' basic skills in speaking, listening, reading and writing Filipino at its beginning level.

130. Beginning Thai I & II. (E) Staff.

Prerequisite(s): For the second semester, completion of the first semester or permission of the instructor. Offered through the Penn Language Center.

An introduction to the spoken and written Thai language.

210. Intermediate Vietnamese I & II. (C) Nguyen.

Prerequisite(s): ALAN 110 or equivalent. For the second semester, completion of the first semester or permission of the instructor. Offered through the Penn Language Center.

A continuation of ALAN 110, the written and spoken language of Vietnam.

220. Intermediate Filipino I & II. (E) Juliano.

Prerequisite(s): For the second semester, completion of the first semester of ALAN 220 or permission of the instructor. Offered through the Penn Language Center.

A continuation of ALAN 120, the spoken and written Tagalog (Filipino) language. This course will develop the communicative competence of the students in handling limited communicative tasks, reading simple connected texts and writing short dialogues.

230. Intermediate Thai I & II. (E) Staff.

Prerequisite(s): The second semester of ALAN130 or permission of the instructor. For the second semester, completion of the first semester or permission of the instructor. Offered through the Penn Language Center.

A continuation of ALAN 130, the spoken and written Thai language.

121. (EALC521) Chinese Poetry & Prose: In translation. (A) Mair.

A wide variety of poetic & prose genres from the earliest times to the 19th century is introduced through English translation. A few selections will also be studied in Chinese characters with romanized transcriptions. There are no prerequisites for this course.

131. (EALC531) Introduction to Classical Chinese Thought. (K) History & Tradition Sector.

All classes. Goldin.

This course is intended as an introduction to the foundational thinkers of Chinese civilization, who flourished from the fifth to the second centuries B.C. No knowledge of Chinese is presumed, and there are no prerequisites, although EALC 001 (Introduction to Chinese Civilization) is recommended. Graduate students may take this course as EALC 531 and should see the instructor to discuss requirements for graduate credit. (Undergraduates must enroll in the courses as EALC 131.)

ECONOMICS (AS) {ECON}

L/R 001. Introduction to Micro Economics. (C) Society Sector. All classes.

Introduction to economic analysis and its application. Theory of supply and demand, costs and revenues of the firm under perfect competition, monopoly and oligopoly, pricing of factors of production, income distribution, and theory of international trade. Econ 1 deals primarily with microeconomics.

L/R 002. Introductory Economics: Macro. (C) Society Sector. All classes. Prerequisite(s): ECON 001.

Introduction to economic analysis and its application. An examination of a market economy to provide an understanding of how the size and composition of national output are determined. Elements of monetary and fiscal policy, international trade, economic development, and comparative economic systems.

L/R 010. Introduction to Economics for Business. (A) Staff. For Wharton students only.

The first part of the course covers basic microeconomic concepts such as opportunity cost, comparative advantage, supply and demand, importance of costs and revenues under perfect competition vs. monopoly, externalities and public goods.

The second part of the course introduces macroeconomic data, two models of the labor market, a model of the aggregate household, and the standard AD-AS model. The course concludes with an introduction to fiscal policy, banking, and the role of the Central Bank.

013. (PPE 201) Strategic Reasoning. (C) Prerequisite(s): ECON 001, some high school algebra. This course may NOT be taken concurrently or after Econ 212.

This course is about strategically interdependent decisions. In such situations, the outcome of your actions depends also on the actions of others. When making your choice, you have to think what the others will choose, who in turn are thinking what you will be choosing, and so on. Game Theory offers several concepts and insights for understanding such situations, and for making better strategic choices. This course will introduce and develop some basic ideas from game theory, using illustrations, applications, and cases drawn from business, economics, politics, sports, and even fiction and

movies. Some interactive games will be played in class. There will be little formal theory, and the only pre-requisite is some high-school algebra. This course will also be accepted by the Economics department as an econ course, to be counted toward the minor in Economics (or as an Econ elective).

L/R 014. (HIST161) American Capitalism. (C) Society Sector. All classes. Prerequisite(s): ECON 001, ECON 002, or ECON 010.

A broad overview of American economic history will be provided by focusing on the following topics: colonial trade patterns, the growth of the market economy, the political economy of slavery, industrial expansion, segmentation in the labor force and changes in work, technological and organizational innovations, business cycles, the rise of the corporate welfare state, the growth of monopoly capitalism, and current economic problems in historical perspective.

024. Development Economics. (C) Prerequisite(s): ECON 001 or ECON 010. Students may NOT take Econ 24 and Econ 261.

This course presents an overview of the field of development economics. The general aim is to show how economic analysis has been applied to issues related to developing countries. Among the topics covered are: income distribution, poverty, health, population growth, migration, growth, and the rural economy.

030. (PPE 030) Public Policy Analysis. (C) Staff. Prerequisite(s): ECON 001 and 002 or ECON 010. Credit cannot be received for both ECON 030 and 231.

This course provides an introduction to the economic method for analyzing public policy questions. It develops the implications of this method for the role of government in a market economy and for the analysis of specific public projects.

033. (PPE 033) Labor Economics. (B) Prerequisite(s): ECON 001 or ECON 010. Credit cannot be received for both ECON 033 and 233.

The course begins with an extensive discussion of models of labor market demand and supply. The rest of the course addresses a variety of related topics including the school -to-work transition, job training, employee benefits, the role of labor unions, discrimination, workforce diversity, poverty, and public policy.

035. (PPE 035) Industrial Organization. (C) Prerequisite(s): ECON 001 or ECON 010. Credit cannot be received for both ECON 035 and 235.

Theories of various industrial organizational structures and problems are developed, including monopoly, oligopoly, moral hazard and adverse selection. These theories are then applied to the study of various industries, antitrust cases, and regulatory issues.

036. (PPE 036) Law and Economics. (C) Prerequisite(s): ECON 001 or ECON 010. Credit cannot be received for both ECON 036 and 234.

The relationship of economic principles to law and the use of economic analysis to study legal problems. Topics will include: property rights and intellectual property; analysis of antitrust and economic analysis of legal decision making.

039. (HCMG202) Economics and Financing of Health Care Delivery. (A) Prerequisite(s): ECON 001 or ECON 010 or permission of instructor.

Systematic and critical review of the present economic literature on the health care "industry". Topics include the demography and determinants of illness, the demand for curative and preventive care and determinants of recent health cost inflation, the efficacy of markets, and the role of government.

050. International Economics. (C) Prerequisite(s): ECON 001 and 002 or ECON 010. ECON 050 is a one-semester course in international economics. Students wishing to study the subject in greater depth should take instead the two-semester sequence ECON 251 and 252.

Introduction to the theory of international trade and international monetary economics. The theoretical background is used as a basis for discussion of policy issues. Patterns of international trade and production; gains from trade; tariffs, and impediments to trade; foreign exchange markets, balance of payments, capital flows, financial crises, coordination of monetary and fiscal policy in a global economy.

L/R 101. Intermediate

Microeconomics. (C) Prerequisite(s): ECON 001 and 002; MATH 104 and either MATH 114 or MATH 115. Note: Incoming freshmen with AP or transfer credit for Econ 1 and Econ 2, MUST complete Math 104 and Math 114 or Math 115 before enrolling in Econ 101. Upper classmen must have at least a B+ in Math 104 to take Econ 101 and Math 114 or Math 115 concurrently.

Theories of consumer behavior, demand, production, costs, the firm in various market contexts, factor employment, factor incomes, elementary general equilibrium, and welfare.

L/R 102. Intermediate

Macroeconomics. (C) Prerequisite(s): ECON 001, ECON 002, ECON 101, MATH 104 and MATH 114 or MATH 115. Finance 101 does not satisfy any of the Economics department requirements. Therefore, students are required to take Econ 102.

Facts and theories about the determination of per capita income and its differences across countries and across time. The study of economic fluctuations in output and employment. The role of government in influencing these aggregate variables: monetary and fiscal policy.

L/R 103. Statistics for Economists.

(C) Prerequisite(s): MATH 104 and MATH 114 or MATH 115 and ECON 001 and ECON 002 or ECON 010. Intended primarily for economics majors. ECON 103 cannot be taken by any student who has already completed Statistics at least at the level of STAT 430 (including the sequence STAT 430/431). Such students must take an additional 200-level course to satisfy course requirements of the major.

The course focuses on elementary probability and inferential statistical techniques. The course begins with a survey of basic descriptive statistics and data sources and then covers elementary probability theory, sampling, estimation, hypothesis testing, correlation, and regression. The course focuses on practical issues involved in the substantive interpretation of economic data using the techniques of statistical inference. For this reason empirical case studies that apply the techniques to real-life data are stressed and discussed throughout the course, and students are required to perform several statistical analyses of their own.

L/R 104. Econometrics. (B)

Prerequisite(s): ECON 101, ECON 103; MATH 104, MATH 114 or MATH 115 or permission from instructor.

This course is designed to introduce students to econometric techniques and their applications in economic analysis and decision-making. The main objective of the course is to train the student in (i) handling economic data; (ii) quantitative analyses of economic models with probabilistic tools; (iii) econometric techniques, their application as well as their statistical and practical interpretation; (iv) implementing these techniques on a computer. Estimation and inference procedures are formally analyzed for simple econometric models and illustrated by empirical case studies using real-life data. The course covers linear regression models, simultaneous-equations models, discrete choice models and univariate time series models. Estimation and Inference is conducted using least squares and likelihood based techniques. Students are required to perform several econometric analyses of their own.

199. Independent Study. (C) Staff.

Prerequisite(s): ECON 101, ECON 102, ECON 103 and written permission from the Director of Independent Research. Please see the Undergraduate Coordinator in Economics (160 McNeil) for the permission form. Please see the Undergraduate Coordinator in Economics (160 McNeil) for the appropriate sequence number.

Individual study and research under the direction of a member of the Economics Department faculty. At a minimum, the student must write a major paper summarizing, unifying, and interpreting the results of the study. This is a one semester, one c.u. course.

210. Economics of Family. (M)

Prerequisite(s): ECON 101, MATH 104 and MATH 114 or MATH 115. In addition, any 200-level evening course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

This course will use economic tools to explore decision making and allocation of resources within the family. The course will use both economic theory and econometric evidence to investigate these issues. The impact of gender roles and differences will be examined and the effect of these differences on economic decisions and outcomes both within and outside the family will be discussed.

Student participation will be an integral part of the course. During class,

students will be required to evaluate data and relate it to the theoretic model covered. Student participation will also include two in-class oral presentations. Students will be working with CWiC (Communication Within the Curriculum) as they work on these presentations.

211. Social Choice Theory. (M)

Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. In addition, any 200-level LPS course (Section 601), when offered, MAY NOT count for Economics Majors, unless you are officially registered as an LPS student.

This course investigates a topic which lies at the heart of economic, social and political sciences, namely the aggregation of individual preferences. Can a society as a whole exhibit preferences as individuals do? Can these preferences be based on individual ones, and show the same level of coherence? Which process can lead from individual preferences to the preferences of the society? At the end of the 18th century, the pioneers in the field already realized that mathematics is the only language powerful enough to make deep progress in the understanding of these questions. The formalization involves pure logic as well as geometry and combinatorics.

212. Game Theory. (C) Prerequisite(s):

ECON 101; MATH 104 and MATH 114 or MATH 115. Any 200-level LPS course when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

An introduction to game theory and its applications to economic analysis. The course will provide a theoretical overview of modern game theory, emphasizing common themes in the analysis of strategic behavior in different social science contexts. The economic applications will be drawn from different areas including trade, corporate strategy and public policy.

221. Econometric Forecasting. (C)

Prerequisite(s): ECON 101, ECON 102, ECON 103, ECON 104; MATH 104 and MATH 114 or MATH 115. In addition, any 200-level CGS course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

This course provides a comprehensive introduction to forecasting in economics and business. Topics covered include statistical graphics, trends, seasonality, cycles, forecast construction, forecast evaluation and forecast combination.

222. Advanced Econometric Techniques and Applications. (B)

Prerequisite(s): ECON 101, ECON 104; MATH 104 and MATH 114 or MATH 115. In addition, any 200-level LPS course, when offered WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

This course introduces students to advanced study in econometrics, with an emphasis on methods used in microeconomic applications and in evaluating the effects of social interventions. The methods covered include methods for handling limited dependent variables (useful, for example, in forecasting the demand for a new good), maximum likelihood estimators, and flexible semiparametric and non parametric estimation methods, and randomized and nonexperimental methods of estimating treatment effects. Applications of econometrics to the field of program evaluation will also be studied.

231. Public Finance. (C) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended. Credit cannot be received for both ECON 030 and 231.

This course has two parts. The first looks at market and government failures and discusses the need for public policies as well as limits to their effectiveness including the evaluation of public projects using cost benefit analysis. The second part focuses on the economic analysis of taxation, including the economic incidence and efficiency of taxes.

232. (PPE 232) Political Economy. (B) Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended.

This course examines the political and economic determinants of government policies. The course presents economic arguments for government action in the private economy. How government decides policies via simple majority voting, representative legislatures, and executive veto and agenda-setting politics will be studied. Applications include government spending and redistributive policies.

233. Labor Economics. (C)

Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended. Credit cannot be received for both ECON 033 and 233.

Labor supply and labor demand, income distribution, labor market contracts and work incentives, human capital, labor market discrimination, job training and unemployment.

234. Law and Economics. (B)

Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. Credit cannot be received for both ECON 036 and 234.

This course will use basic microeconomic tools to understand how the law often, but not always, promotes economic efficiency. Among the areas to be discussed will be tort law, property law, intellectual property, antitrust regulation. The distinction between common law and legislative law will be drawn.

235. Industrial Organization. (C)

Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended. Credit cannot be received for both ECON 035 and 235.

Theories of various industrial organizational structures and problems are developed, including monopoly, oligopoly, nonlinear pricing and price discrimination. These theories are used to model various industries, antitrust cases, and regulatory issues.

236. Health Economics. (C)

Juan Pablo Atal. Prerequisite(s): ECON101, MATH 104 and either MATH 114 or MATH 115. Wharton students can satisfy the ECON 101 prerequisite with BEPP 250 HONORS. The regular BEPP 250 course does not count as a substitute for ECON 101. For ECON majors only. Intermediate Micro is a prerequisite and this course will use advanced quantitative methods. Students may not take Econ 039, HCMG 202.

In this course we will use the tools of microeconomics to analyze the functioning of the health care system. We will draw from the sub-disciplines of information economics, industrial organization, labor economics, public economics, and behavioral economics. The primary goal is to use these tools to develop a critical analysis of the functioning of the health care system as well as of the policies aimed at improving it. We will learn about US specific institutional details and policies (most notably the Affordable Care Act), and we will compare them to other important international experiences.

237. Urban Fiscal Policy. (M)

Prerequisite(s): ECON 101, ECON 102, MATH 104 and MATH 114 or 115.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market,

privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.

241. Economic Growth. (C)

Prerequisite(s): ECON 101, ECON 102, ECON 103; MATH 104 AND MATH 114 or MATH 115.

The process of economic growth and the sources of differences in economic performance across nations are some of the most interesting, important and challenging areas in modern social science. You cannot travel or read the news without wondering why differences in standards of living among countries are so large. The primary purpose of this course is to introduce undergraduate students to these major issues and to the theoretical tools necessary for studying them. The course therefore strives to provide students with a solid background in dynamic economic analysis, as well as empirical examples and data analysis.

242. Topics in Macroeconomics. (C)

Prerequisite(s): ECON 101 and ECON 102; MATH 104 and MATH 114 or MATH 115. Ly.

This course covers topics of interest in macroeconomics. Two sections are offered: Markets with Frictions. This course studies allocations in markets with frictions, as described by the difficulty in finding a trading partner, private information problems, commitment issues, and so on. Applications to labor markets, monetary economics, the marriage market will be discussed. The main technical tool will be search theory, but a liberal amount of calculus and other mathematics will be used.

Numerical Methods for Macroeconomists. This course will study some of the numerical methods that are used in modern macroeconomics. This class will learn how to solve nonlinear equations, difference equations, interpolate functions, smooth data, and conduct Monte Carlo simulations on the computer. This will be done while studying economic problems, such as the determination of labor supply, economic growth and business cycle analysis. Calculus is an integral part of the course and some elementary probability theory will be drawn upon. The MATLAB programming language will be used.

243. Monetary and Fiscal Policies.

(C) Prerequisite(s): ECON 101 and ECON 102; MATH 104 AND MATH 114 OR MATH 115. ECON 103 recommended.

This is an advanced course in macroeconomics. A relatively simple, but well defined and internally consistent model of the U.S. economy is set up and used to study how output is generated given the initial resources, how output is divided between consumption and addition to capital stock, and how this process accumulates over time. The role of prices including the rate of interest in this process is also reviewed, and monetary and fiscal policies needed to improve the performance of the economy under such circumstances are discussed.

244. Macro-Modeling. (M)

Prerequisite(s): ECON 101 and ECON 102; MATH 104, and MATH 114 or MATH 115. ECON 103 recommended.

This is an advanced undergraduate course in models of economic growth. Students will be introduced to the workhorse theoretical models that are used to understand growth by modern macroeconomic researchers and policy makers. The types of questions that we will address include: Why are some countries richer than others? Why do some countries grow quickly while others stagnate? Why did modern economic growth start in Western Europe? What can governments do to accelerate economic growth? How does economic growth interact with demographic and geographic factors? We will build theoretical models that can be used to answer these questions. There will be a strong focus on emphasizing the microeconomic foundations of models, and using the language of mathematics to express the underlying assumptions and assess their implications for policy. Hence, there are strict mathematical prerequisites. We will also compare the predictions of our models with the data. Thus, a fair amount of econometrics will be required. A class in statistics and econometrics is highly recommended.

245. Math for Economists. (C)

Prerequisite(s): ECON 101, ECON 102, MATH 104 and MATH 114 or 115.

This course will introduce students to mathematical tools that are commonly used in modern economics and give students experience using these tools to answer economic questions. Topics covered may include constrained optimization, duality, dynamic fixed point theorems and optimal control theory.

246. Money and Banking.

Prerequisite(s): ECON 101, ECON 102. MATH 104 and MATH 114 or 115.

Money and Banking. This course studies the role that financial markets, institutions, and money play in resource allocation. Financial intermediation and the role of banks in the economic system are analyzed and the economic rationale behind banking regulation is studied. The course examines how monetary policy influences interest rates and asset markets, such as the bond market and the stock market. Finally, the instruments and goals of monetary policy are discussed, focusing in particular on credibility and commitment for central banks. All of the questions are explored analytically, using the tools of economic theory.

251. International Trade. (A)

Prerequisite(s): ECON 101 and ECON 102; MATH 104 and MATH 114 or MATH 115. In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

Structure of the world economy; theory of international trade; economic growth and international trade; international trade policy: developed countries; developing countries. Direct investment, technology transfers, and the multinational firm.

252. International Finance. (B)

Prerequisite(s): ECON 101, ECON 102; MATH 104 and MATH 114 or MATH 115. In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

International monetary economics with emphasis on economic policy in an open economy. Topics covered in the course include: balance-of-payments adjustment, theories of exchange rate determination, the effects of exchange rate devaluation, macroeconomic policy under fixed and floating exchange rates, the Euro-dollar market, currency and balance of payments crises.

260. Decision Making Under

Uncertainty. (C) staff. Prerequisite(s): ECON 101, ECON 103, MATH 104 and MATH 114 or 115. All prerequisites MUST be taken prior to enrolling in this course.

This course will show how individuals make decisions in a world full of uncertainties, both normatively and descriptively. This theory will help us build skills in understanding and analyzing a choice problem with uncertainty in a systematic fashion, as well as deepening

our understanding of the fundamental concept of a utility function, which plays a critical role in economic modeling. The course requires a substantial ability of abstract thinking. Homework is intended to be thought-provoking rather than skill-sharpening.

261. Topics in Development. (M)

Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended. Student may not receive credit for Econ 024 and Econ 261. In addition, the LPS 200-level course, when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

This course studies institutions in developing economies. The first section of the course will cover the organization of production in traditional agrarian societies. Topics will include land, labor and credit markets. The second section of the course will focus on the role of the community in facilitating the transition to the modern market economy. Here we will study how the community spreads information, permits the formation of informal networks and organizes collective institutions, allowing individuals to take advantage of new economic opportunities.

262. Market Design. (A)

Prerequisite(s): ECON 101, ECON 103; MATH 104 and MATH 114 or MATH 115. (ECON 262 was formerly ECON 160). In addition, the LPS 200-level evening course (Section 601), when offered, WILL NOT count for Economics Majors unless you are officially registered as an LPS student.

Traditionally, economics focuses on the study of existing markets. Recently, regulators, entrepreneurs and economists have been involved in the design of markets. They have created institutionalized markets for new products, and have redesigned existing markets that were dysfunctional. This course utilizes ideas from game theory and microeconomics to provide the theoretical underpinnings for design and analysis of such markets. Further, via real world examples, we study the practical aspects of such market design and the institutional details which can determine the success or failure of a design.

SM 300. Honors Seminar. (E) Staff.

Prerequisite(s): ECON 101, ECON 102, ECON 103, ECON 104 and two 200 level courses; MATH 104 and MATH 114. GPA of at least 3.5 in Economics and permission of the instructor. Course meets weekly. Required of all honors majors.

Students prepare an honors thesis in economics over the academic year, supervised by a faculty member of their choice. In both semesters students present their work in progress to the class. Any student intending to do empirical work in the thesis should have COMPLETED ECON 103 and 104.

700. Intro to Micro Theory. (A)

Utility theory and basic choice under uncertainty, consumer and producer theory

Regularly Offered Ph.D. Courses**680. Microeconomics. (A)**

Prerequisite(s): Equivalent of ECON 003 or permission of instructor.

Basic tools of microeconomic analysis: consumer choice, firm behavior; partial and general equilibrium theory. Econ 681 is a more theoretical course covering the same material.

681. Microeconomic Theory. (A)

Prerequisite(s): Equivalent of ECON 101; meeting the department's minimal mathematical requirements; or permission of instructor.

Basic tools of microeconomic theory: consumer choice, firm behavior, partial and general equilibrium theory. This is a more theoretical treatment of the basic tools of microeconomic analysis than Econ 680.

682. Game Theory and Applications. (B)

Prerequisite(s): ECON 680 or 681.

A graduate level introduction to decision making under uncertainty, applied game theory, and information economics.

701. Microeconomic Theory I. (A)

Prerequisite(s): Meeting the Department's minimal mathematical requirements, Econ 897 Summer Math Program.

Nonlinear programming, theory of the consumer and producer, general equilibrium.

702. Macroeconomic Theory I. (B)

Prerequisite(s): Meeting the Department's minimal mathematical requirements; ECON 700, 701 and 703, 897 Summer Math Program.

Dynamic programming, search theory, neoclassical growth theory, asset pricing, business cycles.

703. Microeconomic Theory II. (A)

Prerequisite(s): Meeting the department's minimal mathematical requirements, Econ 897 Summer Math Program.

Game theory, decision making under uncertainty, information economics.

704. Macroeconomic Theory II. (B)

Prerequisite(s): Meeting the Department's minimal mathematical requirements; ECON 700, 701 and 703, 897 Summer Math Program.

Equilibrium notions in the growth model. Economies with distortions. Incomplete markets. Overlapping generations.

705. Econometrics I: Fundamentals. (A)

Prerequisite(s): Meeting the Department's minimal mathematical requirements, Econ 897 Summer Math Program.

Violations of classical linear regression assumptions, nonlinear regression models (including logit, probit, etc.), diagnostic testing, distributed lag models, panel data models, identification, linear simultaneous-equations model.

706. Econometrics II: Methods & Models. (B)

Prerequisite(s): Meeting the department's minimal mathematical requirements; ECON 705 and 897 Summer Math Program.

Analysis in time and frequency domains, state space representations, Kalman filtering, conditional heteroskedasticity, nonlinear and nonparametric methods for time series, integration, co-integration, numerical and simulation techniques.

708. The Economics of Agency, Information, and Incentives. (C)

Prerequisite(s): Meeting the Department's minimal mathematical requirements; ECON 898 or equivalents.

This course studies the economics of adverse selection and moral hazard in strategic settings. The primary focus is on the agency relationship and the structure of agency contracts. Other settings include auctions, bilateral trading, and the internal organization of the firm.

712. Topics in Advanced Economic Theory and Mathematical Economics. (C)

Topics and prerequisites announced each year.

713. Game Theory. (C) Prerequisite(s): ECON 701 and 703.

A rigorous introduction to the concepts, tools, and techniques of the theory of games, with emphasis on those parts of the

theory that are of particular importance in economics. Topics include games in normal and extensive form, Nash equilibrium, games of incomplete information and Bayesian equilibrium, signaling games, and repeated games.

714. Quantitative Macroeconomic Theory. (C) Prerequisite(s): ECON 702 and 704.

Computation of Equilibria. Calibration of models. Heterogenous agents, macroeconomic models.

716. Equilibrium Theory. (C) The course relies heavily on material covered in Microeconomic Theory I (ECON 701).

This course covers various topics in equilibrium theory (broadly conceived as the analysis of any model in which the collective outcome of individual actions in an economic -- or, even more generally, social setting is described by a system of equations). In recent years the focus has been on the theory of equilibrium in a competitive setting when financial markets are "imperfect," for example, when there are an incomplete set of financial markets, or when households' transactions on financial markets are restricted by various conventions or institutions.

721. Econometrics III: Advanced Techniques of Cross-Section Econometrics. (C)

Prerequisite(s): ECON 705 and 706.

Qualitative response models, panel data, censoring, truncation, selection bias, errors in variables, latent variable models, survey design, advanced techniques of semiparametric estimation and inference in cross-sectional environments. Disequilibrium models. Methods of simulated moments.

722. Econometrics IV: Advanced Techniques of Time-Series Econometrics. (C)

Prerequisite(s): ECON 705 and 706.

Consistency and asymptotic normality for m-estimator and for generalized moment estimators. Asymptotics for integrated and cointegrated time-series. Inference in presence of nuisance parameters identified only under the alternative: consistent moment tests, testing for threshold effects, testing for structural breaks. Estimation of stochastic differential equations from discrete observations: simulated method of moments, indirect inference. Discrete time GARCH models and their continuous limits.

730. International Trade Theory and Policy. (C) Prerequisite(s): ECON 701 and 702.

Pure theory of international trade, commercial policy, and trade.

731. International Monetary Theory and Policy. (C) Prerequisite(s): ECON 701 and 702.

Balance of payments, international capital movements, and foreign exchange examined against a background of current theories and policies.

740. Monetary Economics. (C)

Prerequisite(s): ECON 703, 704, 705, and 706.

The role of money as a medium of exchange and as an asset. Models of the demand for money.

741. Economic Growth. (C)

Prerequisite(s): ECON 701 and 702.

Theories of economic growth and their quantitative implications.

750. Public Economics. (C)

Prerequisite(s): ECON 701 and 703.

Public goods, externalities, uncertainty, and income redistribution as sources of market failures; private market and collective choice models as possible correcting mechanisms. Microeconomic theories of taxation and political models affecting economic variables.

751. Public Economics II. (C)

Prerequisite(s): ECON 701 and 703.

Expenditures: Alternative theories of public choice; transfers to the poor; transfers to special interests and rent seeking; social insurance; publicly provided private goods; public production and bureaucracy. Taxation: Tax incidence in partial and general equilibrium; excess burden analysis. Topics on tax incidence and efficiency: lifetime incidence and excess burden, dynamic incidence, the open economy. Normative theories of taxation: Optimal commodity and income taxation. The political economy of income taxation.

753. Macroeconomic Policy. (C)

Prerequisite(s): ECON 702.

A review of alternative theories of growth and business cycles, and their relevance for recent history of selected industrialized countries. Fiscal and monetary policy in a dynamic setting and their application to current policy issues.

760. Development Economics: Basic Micro Topics. (C) Prerequisite(s): ECON 701 and 705, or permission of instructor.

Analysis of selected topics in economic development related to household/firm (farm) behavior, including determinants of and the impact of human resources, contractual arrangements in land, labor and credit markets, investment and savings. Emphasis on tractable modeling that leads to integrated analysis given available data.

780. Industrial Organization. (C)

Prerequisite(s): ECON 701.

Development of microeconomic models to explain the structure and performance of markets. Among other topics: the conditions under which monopoly power can be exercised, the relationship between profit rates and concentration or size, the persistence of profits over time, industry turnover and interindustry comparisons.

781. Empirical Methods for Industrial Organization. (C) Prerequisite(s): ECON 780.

The goal of the course is to explore links between theory and data in order to identify and test implications of economic models. Reduced form and structural approaches will be used to study a variety of topics that include: Estimation of multiproduct cost functions; detection of collusion, multimarket contact, and network externalities; asymmetric information: auctions and nonlinear pricing; price competition and product differentiation; and complementarities: innovation and organizational design.

785. Selected Topics in Industrial Organization. (C) Prerequisite(s): ECON 701.

The course will cover topics in oligopolistic competition, product selection, the operation of markets under imperfect information and related subjects.

791. (DEMG796, SOCI796) Economic and Demographic Interrelations. (M)

Prerequisite(s): Microeconomic theory and econometrics at the graduate or advanced undergraduate level, or permission of instructor.

Application of economics to the analysis of demographic behaviors and processes including fertility, mortality, health, marriage and migration. Focus is on the development and testing of models of household behavior using econometric tools. Consideration is also given to the economic consequences of population growth.

792. Economics of Labor I. (C)

Prerequisite(s): ECON 701, 703, 705, 706 and 721.

Topics include: Theories of the supply and demand for labor, wage determination, wage differentials, labor market discrimination, unemployment, occupational choice and dynamics of specific labor markets, theory of matching, trade unions. The theory and empirics of human capital accumulation, intertemporal labor supply, search, intergenerational mobility of income and wealth, contracts and bargaining, efficiency wage models, principal/agent models, and signaling models.

793. Economics of Labor II. (C)

Prerequisite(s): ECON 721 and 792.

A continuation of ECON 792.

980. Topics in Economics. (M)

Topics and prerequisites announced when course is offered.

982. Topics in Econometrics. (C)

Topics and prerequisites announced when course is offered.

983. Topics in Microeconomics. (C)

Topics and prerequisites announced when course is offered.

984. Topics in Macroeconomics. (C)

Topics and prerequisites announced when course is offered.

998. Individual Readings and Research. (C)**999. Independent Study. (C)****Workshops and Research Seminars**

Forum at which visiting speakers, Penn faculty, and graduate students present research ideas

SM 719. Economic Theory. (C) Related Courses: ECON 712.

SM 729. Econometrics. (C) Related Courses: ECON 721 and 722.

SM 739. International Economics. (C) Related Courses: ECON 730 and 731.

SM 749. Monetary Economics. (C) Related Courses: ECON 740 and 741.

SM 759. Political Economy. (C) Related Courses: ECON 750 and 751.

SM 769. Economic Development Workshop. (C) Related Courses: ECON 760, 761, 791.

Forum at which visiting speakers, Penn faculty, and graduate students present research ideas.

SM 779. Comparative Economic Systems. (C) Related Courses: ECON 770 and 771.

SM 789. Applied Microeconomics Workshop. (C) Related Courses: ECON 780 and 781.

SM 799. Empirical Microeconomics. (C) Related Courses: ECON 791, 792, 793.

EDUCATION (ED) {EDUC}

Undergraduate Courses

Undergraduate students may not take intersession courses for credit.

General Education/Undergraduate Courses

SM 202. (URBS202) Urban Education. (B)

235. (GSWS235) Psychology of Women. (C) Staff.

Critical analyses of the psychological theories of female development, and introduction to feminist scholarship on gender development and sexuality.

240. (AMCV240, URBS240) Education in American Culture. (C) Staff.

This course explores the relationships between forms of cultural production and transmission (schooling, family and community socialization, peer group subcultures and media representations) and relations of inequality in American society. Working with a broad definition of "education" as varied forms of social learning, we will concentrate particularly on the cultural processes that produce as well as potentially transform class, race, ethnic and gender differences and identities. From this vantage point, we will then consider the role that schools can and/or should play in challenging inequalities in America.

241. Educational Psychology. (C) Staff.

Current issues and research, stressing implications for educational practice. Topics include: behavioral analysis, methods, curriculum objectives, intelligence tests, headstart programs, etc. Field experience in schools is often included.

250. Learning from Children. (C) Staff.

This course is about looking at elementary school classrooms and understanding children's experiences of school from a variety of perspectives, and from a variety of theoretical and methodological lenses from which the student can interpret children's educational experiences. This course is about developing the skills of observation, reflection, and analysis and to begin to examine some implications for curriculum, teaching and schooling. This

course requires you to spend time in an elementary school classroom.

SM 323. (URBS323) Tutoring School: Theory and Practice. (A) Kasher, Jackie.

This course represents an opportunity for students to participate in academically-based community service involving tutoring in a West Phila. public school. This course will serve a need for those students who are already tutoring through the West Phila. Tutoring Project or other campus tutoring. It will also be available to individuals who are interested in tutoring for the first time.

SM 326. (URBS326) Tutoring in Urban Public Elementary Schools: A Child Development Perspective. Fantuzzo.

The course provides an opportunity for undergraduate students to participate in academically based community service learning. Student will be studying early childhood development and learning while providing direct, one-to-one tutoring services to young students in Philadelphia public elementary schools. The course will cover foundational dimensions of the cognitive and social development of preschool and elementary school students from a multicultural perspective. The course will place a special emphasis on the multiple contexts that influence children's development and learning and how aspects of classroom environment (i.e., curriculum and classroom management strategies) can impact children's achievement. Also, student will consider a range of larger issues impacting urban education embedded in American society. The course structure has three major components: (1) lecture related directly to readings on early childhood development and key observation and listening skills necessary for effective tutoring, (2) weekly contact with a preschool or elementary school student as a volunteer tutor and active consideration of how to enhance the student learning, and (3) discussion and reflection of personal and societal issues related to being a volunteer tutor in a large urban public school.

345. (GSWS344) Psychology of Personal Growth. (C) Staff.

Intellectual, emotional and behavioral development in the college years. Illustrative topics: developing intellectual and social competence; developing personal and career goals; managing interpersonal relationships; values and behavior. Recommended for

submatriculation in Psychological Services Master's Degree program.

360. Human Development. (C) Staff.

A life-span (infancy to adulthood) approach to development. Topics include: biological, physical, social and cognitive basis of development. Films and guest speakers are often included.

463. (HIST463) The History of American Education. (B) Katz.

This course is a survey of the relationships between education and the history of American society. The emphasis will be on social history: the interrelations between education and social structure, demography, economic development, family patterns, reform movements, and other institutions.

414. Children's Literature. (A) Staff.

Theoretical and practical aspects of the study of literature for children. Students develop both wide familiarity with children's books, and understanding of how children's literature fits into the elementary school curriculum.

417. Reading/Language Arts in the Elementary School. (A) Prerequisite(s): EDUC 316, 317. Corequisite(s): EDUC 419, 420. This course is open only to students officially admitted to the program for preparation of elementary school teachers.

Second of a two-part course (see EDUC 317). The course focuses on the reading process, using literature in the reading curriculum, language and cultural difference in the classroom, and evaluating reading/language arts programs and progress. Students design and carry out reading lessons and units, conduct informal reading assessments, and participate in in-class seminars.

418. Teaching and Learning Mathematics in Elementary Schools. (A) Staff.

Students participating in this course will explore definitions of mathematics, theories of children's mathematical learning, and issues of reform in mathematics education through consideration of relevant content areas such as numeration, rational number operations, geometry, and probability and statistics.

421. (ENVS421) Science in Elementary and Middle Schools. (B) Staff.

An intensive approach to current methods, curricula, and trends in teaching science as basic learning, K-8. "Hands-on" activities

based on cogent, current philosophical and psychological theories including: S/T/S and gender issues. Focus on skill development in critical thinking. Content areas: living things, the physical universe, and interacting ecosystems.

ECS-Education, Culture & Society 105

SM 503. (URBS546) Global Citizenship. (B) Hall.

This course examines the possibilities and limitations of conceiving of and realizing citizenship on a global scale. Readings, guest lecturers, and discussions will focus on dilemmas associated with addressing issues that transcend national boundaries. In particular, the course compares global/local dynamics that emerge across different types of improvement efforts focusing on distinctive institutions and social domains, including: educational development; human rights; humanitarian aid; free trade; micro-finance initiatives; and the global environmental movement. The course has two objectives: to explore research and theoretical work related to global citizenship, social engagement, and international development; and to discuss ethical and practical issues that emerge in the local contexts where development initiatives are implemented.

SM 506. Global Perspectives on Inequalities in Education. (B) Ghaffar-Kucher.

This course provides a conceptual framework for understanding various dimensions of inequality. Through country case studies, the course takes a global perspective to explore how conceptions of equality, equity, quality, and opportunity intersect with issues around race, class, and gender, and inform debates around educational policy and practice.

SM 509. Liberalism & Multiculturalism -- Theory & Policy. (C) Ben-Porath.

This course is aimed at positioning education at the heart of the political-philosophical question of justice. The aim to gain an understanding of the core issues we face when constructing policies to advance equity, choice, and access and other just causes.

SM 511. Equality. (C) Ben-Porath.

'All men (or all humans) are created equal': What does this statement mean? What are we all equal in? What should we be equal in? Do we have equal potential, equal dignity, equal worth? Must we have equal

resources, equal opportunities, equal status? In this class we will consider philosophical and political approaches to the idea of equality. The education system's ability and commitment to respond to claims of equality will be discussed. Must we treat all children the same? Or each child differently? And if the latter, how does that constitute equality? Moreover, must we treat individuals or groups equally? Educational and philosophical answers to these questions will be the focus of this seminar.

514. Education in Developing Countries. (C) Wagner/Ghaffar-Kucher.

Prerequisite(s): Prior graduate work in related areas recommended.

In recent years the construct of "global development" has come under increasing scrutiny, leading some scholars and practitioners to wonder whether development remains a useful concept. In this course, we will actively engage in this debate through a survey of the development literature in the field of education. We will examine theoretical frameworks and historical perspectives that will allow us to develop a better understanding of what is meant by "development" as well as recognize how these concepts relate to basic educational planning and practice in various international contexts.

The course will work from primary and secondary materials on theories, research, and applications used to promote global development and basic education. Some programs are carried out by multinational/bilateral agencies such as World Bank, Unicef, UNESCO, and USAID, while others are undertaken by intermediary organizations (such as NGOs and universities) and local organizations or individual specialists. Issues include a range of social, economic and political obstacles to the provision of quality education. The goal of this course is to improve your understanding of how different theories of education and development influence educational policy, priorities, and programs of international, national, and local institutions.

518. Authority, Freedom, and Disciplinary Policies. (B) Goodman.

The course concentrates on the nature and justification of discipline. In particular, we focus on how discipline becomes the expression of twin but conflicting premises of education: that children should be encouraged to develop their critical intellectual capacities and autonomous decision-making -- read freedom; that these ends cannot be achieved without the

direction and control of teachers -- read authority.

Students read classical works on freedom and authority (John Stuart Mill, Isaiah Berlin, Emile Durkheim, John Dewey, C.S. Lewis) as well as more contemporary ones. In class we look at video clips of different practices and discuss readings. Every student selects one type of disciplinary approach to study in detail, inclusive of on-site visits. The seminar paper covers the source and nature of the school's commitments, its theory of authority and freedom (implicit and explicit), illustrations of how commitments are expressed (including discipline practices), and the student's reflections.

SM 524. Philosophical Aspects of Education Policy. (C) Ben-Porath.

This course, which is unofficially titled 'Justice goes to School' explores the philosophical or normative foundations of educational policy decisions. School choice, standards-based reform, civic education, children's and parents' rights, school finance reform - how do different arguments for these policies view the role of schools in society? What are their concept of the person, and their view of the educated person? We will consider arguments for and against a variety of contemporary educational policies. Students are encouraged, if they are interested, to bring to class educational policy decision that perplex or intrigue them.

544. School and Society in America. (C) Ingersoll/Ben-Porath.

This course reviews the major empirical and theoretical research from the social history, and social theory on the development, organization and governance of American education, and the relationship between schooling and the principal institutions and social structures of American society.

547. (ANTH547, FOLK527, URBS547) Anthropology and Education. (C)

Hall or Posecznick.

An introduction to the intent, approach, and contribution of anthropology to the study of socialization and schooling in cross-cultural perspective. Education is examined in traditional, colonial, and complex industrial societies.

564. Moral Values and the Schools. (B) Goodman.

This course explores whether, and if so, how "values" should be taught in the schools by addressing the following questions: What is unique about the domain

of values? Is there, or should there be, a corpus of shared personal and social values? What are the sources of values and how are they transmitted across generations? If schools teach values, how do they address the problems associated with specific codes? The problems of the absence of codes? The tensions between fidelity to personal beliefs and to values of compromise, tolerance and cultural pluralism?

570. Education and the American City. (B) Puckett.

Education and the American City centers on major trends and factors that have shaped cities and their preK-16 school systems since the Second World War, including racial discrimination, migration and immigration, suburbanization, deindustrialization, U.S. housing policy, social welfare policy, and urban renewal.

576. (GSWS249, PHIL249) The Social & Political Philosophy of Education. (A) Detlefsen, K.

Is the purpose of education to allow individuals to better themselves by pursuing personal tastes and interests, or should education be primarily aimed at creating good citizens or good members of a group? Is there a way of reconciling these two aims? Assuming that adult relations with children are inherently paternalistic, is it possible for children to be educated for future autonomy to pursue major life goals free from such paternalistic control; and if so, how? How much, if any control over education can be allocated to the state, even when this conflicts with the educational goals parents have for their children? Such questions are especially relevant in multicultural or pluralistic societies in which some groups within a liberal state are non-liberal. Should a liberal democratic state intervene in education to ensure the development of children's personal autonomy, or must toleration of non-liberal groups prevail even at the expense of children's autonomy?

SM 586. ETHNOGRAPHIC FILMMAKING. (A) Hall, Kathleen & Das, Amit.

This ethnographic methodology course considers filmmaking/videography as a tool in conducting ethnographic research as well as a medium for presenting academic research to scholarly and non-scholarly audiences. The course engages the methodological and theoretical implications of capturing data and crafting social scientific accounts/narratives in images and sounds. Students are required to put theory

into practice by conducting ethnographic research and producing an ethnographic film as their final project. In service to that goal, students will read about ethnography (as a social scientific method and representational genre), learn and utilize ethnographic methods in fieldwork, watch non-fiction films (to be analyzed for formal properties and implicit assumptions about culture/sociality), and acquire rigorous training in the skills and craft of digital video production. This is an ABCS course, and students will produce short ethnographic films with students in Philadelphia high schools as part of a partnership project with the School District of Philadelphia. Due to the time needed for ethnographic film production, this is a year-long course, which will meet periodically in both the fall and spring semesters.

SM 589. Teaching and Learning in the Global Era. (A) Hall, Kathleen.

We are living in an era in which economic, social, cultural, environmental and technological transformations are connecting people across the globe in new and unprecedented ways. Given that our world is increasingly interconnected, it is no longer adequate to prepare students to succeed simply as citizens of a particular nation. Students also must acquire the knowledge, skills, dispositions, understanding and aptitude to engage with people from different regions in the world who may hold varying or conflicting perspectives, forms of knowledge, and ways of knowing that are culturally and historically specific and informed. This course will focus on issues related to teaching and learning in the 21st century, and to preparing young people for global citizenship. We will consider what it means to be a global citizen as well as the various approaches to educating for global citizenship that have emerged in the U.S. and around the world. We will also explore instructional and curricular innovations that aim to enrich how young people learn about world regions and cultural traditions, engage with global issues and come to respect contrasting perspectives.

SM 595. (PSCI545) POLITICS AND EDUCATION. (A) BEN-PORATH.

How is education a form of political action? In this course we look at the governance of schools, the trust in them and their relations to socio-economic conditions in society, among other topics, using research in education, political science, and political theory.

SM 596. International Early Childhood Policies and Programs. (A) Neuman, Michelle.

This course focuses on early childhood development research, policies, and practices in low and middle-income countries. The first part of the course reviews the evidence for investing in young children from economic, health, and education perspectives. The second part of the course discusses current issues related to designing, implementing, and evaluating quality, contextually-appropriate early childhood interventions.

SM 597. Policy Planning in International Educational Development: Theory and Practice. (B) Neuman, Michelle.

This course focuses on education policy in low and middle-income countries. The first part examines global policy frameworks and international institutions/actors that shape education reform efforts. The second part covers the contexts, processes, and tools for national education policy planning. The third part analyzes a series of current cross-national education policy issues.

SM 598. Interfaith Dialogue in Action. (B) Hall, Kathy & Kocher, Steve.

This ABCS course explores religious pluralism and interfaith dialogue and action on college campuses. It brings together students with diverse faith commitments (including atheism) to engage with and learn from one another in academic study, dialogue, and service.

602. Youth Cultural Formations. (B) Staff.

This course explores anthropological perspectives on peer-based youth cultures. It explores how educational institutions, media (fashion, music, magazines), and states shape youth cultures in cross-cultural contexts through social processes such as capitalism, nationalism, and increasing globalization. The course emphasizes ethnographies and histories which explore the relationship of these wider social processes to the lived realities of young people, situated in class, gender, national and race-specific contexts.

611. Education, Development, and Globalization. (B) Ghaffar-Kucher.

This course will explore contemporary issues in international education. The emphasis will be on exploring an emergent body of literature on contemporary processes of globalization in the field of education. The course has a double goal: 1) to provide theoretical frameworks and

historical perspectives in order to develop an adequate understanding of 'globalization', and 2) to explore the relevance and impact of globalization as a framework for understanding educational processes in comparative and international contexts.

622. International Educational Development Program (IEDP) International Field

Experience/Internship. (G) Ghaffer-Kucher. Prerequisite(s): Required of (and limited to) IEDP students in order to complete their Master's Degree.

Conceptual background on the role and utility of non-profit organizations in international educational development, combined with 6-8 weeks of field experience working in a developing country, or with an international organization that has programs in developing countries. The pre-fieldwork phase of the course seeks to acquaint students with the stages of a project cycle and will introduce students to tools and techniques employed by a variety of international development organizations. Students will work in small groups on a technical proposal throughout the semester. For the fieldwork phase, students are required to write multiple reports from the field.

SM 646. Contextualizing the School to Prison Pipeline: Implications of History, Policy, and Race. (B) Harper, Jessie.

The term school-to-prison pipeline typically refers to a disturbing trend in which punitive policies have led to children being funneled out of schools and into the criminal justice system at an alarming rate. This course:

1. Examines the historical context and policies that have contributed to the school-to-prison pipeline.
 2. Explores the workings of contemporary racism, in particular, colorblind racism and its relationship to education and corrections policies.
- Discusses the outcomes of such policies and explores interventions for an alternate approach to such policies.

SM 664. Participatory Educational Research in Global Perspective: Theory and Practice. (B) Ravitch.

This course examines participatory models and frameworks in relation to international applied educational development research. Through a critical examination of approaches to international applied development research, the course examines real-world models of development research

in order to examine questions regarding the nature of knowledge, post-colonial histories, researcher positionalities, and the relationships between concepts, theory, methodology, community, and identity. Course focuses on participatory methodologies as cross-sector strategy frameworks for sustainable, equitable, locally driven educational development efforts.

SM 673. Curriculum & Pedagogy in International Contexts. (B) Ghaffar-Kucher, Ameena.

This course explores the problems, issues, and approaches to teacher preparation and the development of curricula and instructional materials, particularly (though not exclusively) in developing country contexts through a seminar styled class and a hands-on semester long project.

682. Qualitative Modes of Inquiry. (C) Ravitch/Posecznick/Staff.

This course surveys the field of qualitative research and focuses on foundational philosophies of and approaches to qualitative research. The course focuses on the stages of qualitative research including the development of researchable questions, research designs, conceptual frameworks, methodological stances, data collection and analysis and instrument design and implementation.

SM 695. Proseminar in International Educational Development. (G) Wagner.

The IEDP Proseminar covers the broad arena of international educational development. The course is designed to provide an analytical perspective on applied research and policy as undertaken by UN, donor and non-profit agencies, with a focus on developing countries. Several invited specialists will participate in the course. This Proseminar is a required course for IEDP Masters students.

700. (ANTH707) Craft of Ethnography. (B) Hall. Prerequisite(s): Must have completed EDUC 721 or equivalent introductory qualitative methods course.

This course is designed to follow after Ethnographic Research Methods (EDUC 721). In the introductory course, students learned how to use qualitative methods in conducting a brief field study. This advanced level course focuses on research design and specifically the craft of ethnographic research. Students will apply what they learn in the course in writing a proposal for a dissertation research project.

703. Advanced Qualitative and Case Study Research. (B) Ravitch.

Prerequisite(s): EDUC 682 Qualitative Modes of Inquiry.

This course explores epistemological and methodological choices and stances in qualitative research as well as advanced research methods including qualitative research design and concept mapping, sampling/participant selection, interviewing, coding and data analysis, instrument development and triangulation techniques.

706. (ANTH704, FOLK706, URBS706) Culture/Power/Subjectivities. (A) Hall. Prerequisite(s): EDUC 547.

This doctoral level course will introduce students to a conceptual language and theoretical tools for analyzing and explaining the complex intersection of racialized, ethnic, gendered, sexual, and classed differences and asymmetrical social relations. The students will examine critically the interrelationships between culture, power, and subjectivity through a close reading of classical and contemporary social theory. Emphasis will be given to assessing the power of various theories for conceptualizing and explaining mechanisms of social stratification as well as the basis of social order and processes of social change.

710. Methods of Discourse Analysis. (L) Rymes/Wortham. Prerequisite(s): This course is designed to follow after

Qualitative Modes of Inquiry (EDUC 682) and as such it is suggested that students have some background in qualitative methods before enrolling.

This course introduces several methodological approaches that have been developed to do discourse analysis. The course intends primarily to provide students with various methodological tools for studying naturally-occurring speech. Assignments include both reading and weekly data analysis exercises.

721. (FOLK672, URBS672) Ethnographic Research Methods. (C) Hall/Wortham. Prerequisite(s): This course is designed to follow after Qualitative

Modes of Inquiry (EDUC 682) and as such it is suggested that students have some background in qualitative methods before enrolling.

A course in ethnographic participant observational research; its substantive orientation, literature, and methods. Emphasis is on the interpretive study of social organization and culture in educational settings, formal and informal. Methods of data collection and analysis,

critical review of examples of ethnographic research reports, and research design and proposal preparation are among the topics and activities included in this course.

727. Education, Culture and Society. (A) Ben-Porath.

This course surveys basic issues in the philosophical and social foundations of education, addressing basic questions about the purpose of education, mostly through reading primary texts. Intended for incoming doctoral students.

729. International Educational Development Doctoral Proseminar. (B) Ghaffar-Kucher, Ameena & Wagner, Dan.

The IEDP Doctoral Proseminar covers the broad arena of international educational development. Drawing on the research experiences of the faculty and of the enrolled doctoral students, the course allows for the analysis of intellectual and technical challenges of working in international education and development, especially around issues of social and public policy.

806. Narrating the Self. (B) Wortham.

This seminar explores, in some linguistic detail, how narrators can partly construct their selves while telling autobiographical stories. The seminar addresses three questions: What is the structure of narrative discourse? How might we construct ourselves by telling stories about ourselves? If narrative is central to self-constructions, what is "the self"?

EDPL-Educational Policy

519. The Evolution of Assessment: Classroom and Policy Uses. (C) Supovitz. Prerequisite(s): Permission needed from department. Masters students only.

This course explores the evolution and diverse uses of assessment in four major areas: the historical roots of testing and the development of the achievement testing industry; the rising interest and exploration of alternative forms of assessment; how teachers employ a variety of assessments in their classrooms; and how policymakers use assessment for decision-making and accountability purposes.

548. American Education Reform: History, Policy, Practice. (C) Puckett.

An examination of major trends, central tendencies, and turning points in twentieth- and early twenty-first century American education reform, giving particular attention to contemporary education

reforms, e.g. NCLB, charter schools, portfolio management models of urban school governance, neoliberal education agendas. This historical development of the federal role in American schooling is also considered, as is the history of school desegregation.

559. Sociology of Education. (B) Ingersoll.

This course provides an overview of key theoretical perspectives and topics in the sociology of education, including expansion of formal educational systems; the extent to which educational systems contribute to or inhibit social mobility; inequality of educational inputs and outcomes by race, social class, and gender; and the social organization of educational institutions, including sources of authority, community, and alienation. The course includes both K-12 and higher education topics.

591. Applied Research Methods to Inform Policy and Practice. (C) Maynard. Prerequisite(s): Permission needed from department.

The class is designed to provide students with the knowledge and tools to define relevant research questions to guide program design and operations, as well as to guide policy development; to map questions to appropriate methods of research; to judge the quality of research evidence; and to design strong analysis and evaluation strategies for various purposes. The primary, but not exclusive, focus of the course is on education policy concerns.

601. Economic Aspects of Educational Policy. (C) Maynard.

This course has two main goals. One is to teach students to apply economic principals to analyze a wide range of educational policy issues. The other is to provide students with a foundation in contemporary education policy issues. The course is designed to address analytic issues relevant to a wide range of educational professionals, including managers, policy makers, and evaluators. The course will be divided into five units: (1) principles of economic analysis in the context of education policy; (2) the economics of early care and education; (3) cost-effectiveness analysis; (4) human capital investment; and (5) education finance.

614. Child Development and Social Policy. (A) Fantuzzo.

The purpose of this course is to focus on major US social policies impacting our most vulnerable subpopulations of children living in poverty. The class will explore

how developmental science can provide a broad conceptual framework to inform the construction of social policies for children and evaluate their effectiveness. Since much of the social policy issues for children in the US public square are currently hotly debated, the class format will incorporate debate and require students to actively research and defend positions on existing policies. Class size will be set at a level to maximize interaction and involvement.

628. Education Finance Policy. (C) Staff.

This course examines the legal, political and economic issues surrounding how public schools are funded, including equity, productivity and the interaction of finance and school reform. Through readings, discussion and written assignments, students will develop and apply policy analysis skills to the area of education finance.

692. Education Policy Issues. (B) Maynard.

This course is an introduction to the process of conducting educational research. Its purpose is to help students learn to approach problems like researchers by examining and critiquing existing research and developing coherent "researchable" questions. Students will carry out a substantial independent project where they will develop elements of a research proposal.

707. U.S. School Policy and Reform. (A) Desimone.

Designed to increase knowledge of what works to improve public schools, what doesn't, and why. Topics include accountability, turnaround and charter schools, Common Core Standards, and other organizational, curricular, teacher and leader reforms. Focuses on how reforms are translated to the classroom, and effects on districts, principals, teachers, and students.

708. Schools as Organizations. (A) Ingersoll.

Schools are places of learning - but they are also workplaces, teachers are employees and teaching is a job. This in-depth doctoral-level course focuses on theory and research concerned with the organizational and occupational side to schools and teaching. It draws from multiple fields and perspectives, including: organizational theory; the sociology of organizations, occupations and work; educational administration; and school leadership. The objective is to have students understand and

evaluate a series of different perspectives from theory, research and policy concerned with the character of the teaching occupation and the organization of schools.

SM 712. (AFRC712, URBS460, URBS713) Comprehensive School Reform: From 'No Child Left Behind' through 'Race to the Top' to 'Every Student Succeeds Act'. (C) Hershberg.

This course examines how K-12 education policy is designed and implemented in the United States. It uses a systems analysis as the framework for looking at who makes what kinds of demands on the education policy system, how these demands are placed on the policy agenda, the decision making process, and resulting education policies and policy outcomes. The course pays particular attention to the roles of federal, state and local governments in education policy, and the impact of our intergovernmental system on the design and implementation of policy. Students will also examine major education policies and debate key education policy issues that arise at each level of government.

720. Teachers and Teaching Policy. (C) Desimone.

Explores research, policies, and practices that promote a high-quality teacher workforce, and effective instruction. Topics include recruitment, retention, mentoring, induction, professional development, certification, value-added, merit pay, etc. Appropriate for students from different programs, including education, social/public policy, psychology, political science, sociology, business, and current and future teachers and school leaders.

751. Introduction to Applied Quantitative Methods for Education Research: Pre-K to 20. (M) Staff.

An introduction to the interpretation and use of data about higher education through the use of computer-assisted methods of statistical analysis. Emphasis is on the implications for educational policy and research design.

838. Applied Research & Reporting. (A) Maynard. Prerequisite(s): Competence in basic statistics and computer literacy.

Hands-on experience conducting applied research. Students will be guided through a research project of relevance to education or social policy chosen by the student, with assistance from the instructor. The research entails analysis of one or more public or quasi-public use data sets, such as the National Longitudinal Survey of Youth; the National Longitudinal Survey of Youth

Child Supplement; The Teenage Parent Demonstration Data Base; the National Profile of Child Care Settings Data Base; or the National Post Secondary Student Aid Survey. The students will prepare journal-length papers based on their research and respond to the reviews of classmates and the instructor.

SM 900. Research Seminar in Applied Research Synthesis Methods. (A) Maynard.

Issues in research design, development of a literature review, and dissertation proposal.

EDLX-Educational Linguistics

SM 502. Citizen Sociolinguistics. (B) Rymes.

In this course we will draw on the Internet and daily news (internet circulated, usually) to find "Citizen Sociolinguists" who speak with authority, while juxtaposing these media with the usual scholarly sources.

507. (EDUC465) Sociology of Language. (M) Pomerantz.

This course examines the intersection of language and society, asking how language ideologies might be implicated in the construction and maintenance of such constructs as national identity, 'standard' language variety, race, and ethnicity. Through theoretical readings and case studies, participants will question how particular linguistic situations give rise to certain institutional practices and probe how these practices might foster inequitable relations of power.

516. Teaching Second Language Writing. (A) Pomerantz.

This course introduces participants to a range of theoretical and practical issues related to second language literacy development, with a particular emphasis on writing instruction. An intensive service-learning project offers course participants the opportunity to work with developing writers in a bilingual community organization. The dual emphasis on theory and pedagogy is intended to create space for critical reflection on the characteristics, production, teaching, and assessment of written texts in bi/multilingual educational settings.

517. Classroom Discourse and Interaction. (B) Rymes.

In this course students will read research that investigates the role of classroom interaction in learning and human development. Students will also learn how to "do" discourse analysis using real

classroom data. Students will practice and critique methods for analyzing classroom discourse data as teachers, with an aim of developing a critical awareness of our own language use and role in society.

527. Approaches to Teaching English and Other Modern Languages. (C) Flores/Wagner,S/Hondo.

This course provides students with an introduction to theory and practice in second and foreign language teaching. Students will (a) develop an understanding of the history of language teaching practice and how such a perspective informs current day approaches, (b) explore the relationship between the context in which the language is learned and taught and classroom practice, and (c) develop an awareness of teaching principles central to a personal pedagogical approach and teaching philosophy. Students should have a field site where they can observe, participate, and collect classroom data.

528. TESOL Practice Teaching. (C) Staff. Prerequisite(s): EDUC 527 & EDUC 537. Permission needed from the department.

Fieldwork course for TESOL students. This course focuses on reflective teaching practice, providing a space for students to combine theory and practice as they apply the theoretical constructs of TESOL coursework to their own language teaching. Students will become accurate and systematic observers of and thinkers about their own teaching methodology, in order to continue to develop into increasingly effective language teachers. The theme of a student-centered language classroom will be explored through scholarly literature, pedagogical techniques, and students' own classroom teaching. To participate in this course, a student must be teaching a language class for the majority of the semester.

537. Educational Linguistics. (A) Butler/Moore/Hondo/Paninos.

For students with little or no linguistics background. An introduction to the basic levels of language (phonetics and phonology, morphology and semantics, syntax, pragmatics) with special emphasis on the relevance of linguistic concepts to education. Other topics may include bi/multilingualism, language variation, and language acquisition.

539. Teaching Performance Art for Cross-Cultural Education. (A) Staff.

This class examines issues related to cultural communities and the arts, specifically performance, writing and

storytelling as an educational tool for generating cross cultural and intercultural understanding, dialogue and exchange. Assignments will focus on, cross-cultural research and dialogue, and skill building in teaching, writing and performance. Students will also develop an understanding of how performance can be used to enhance classroom activities in elementary/middle/secondary/post secondary classroom curricula.

546. Sociolinguistics in Education. (C) Hornberger/Flores/Moore.

The educational consequences of linguistic and cultural diversity. A broad overview of sociolinguistics, introducing both early foundational work and current issues in the field. Topics include language contact and language prestige, multilingualism and language ecology, regional and stylistic variation, verbal repertoire and communicative competence, language and social identity, codeswitching and diglossia, language socialization and language ideology, as they relate to educational policy and practice in the United States and around the world.

SM 563. TESOL Seminar. (C)

Wagner,S/Paninos. Prerequisite(s): EDUC 528. Permission needed from the department.

A weekly seminar that seeks to consolidate, broaden, and deepen knowledge of the main themes, trends, issues, and practices in the field of TESOL. Students will demonstrate their ability to observe, analyze, and reflect upon their teaching as they make connections between theory and practice, all critical skills for ongoing professional development which relate to the students' final project, a reflective-analytical or action research paper. The project is based on a thirty-hour teaching internship completed during the semester in which the students are enrolled in EDUC 563. The project is individually designed and subject to the instructor's approval. All students in the M.S.Ed./TESOL and Language & Literacy must submit a proposal for the internship in the semester before they take the Seminar.

566. Cross Cultural Awareness. (B) Staff.

This course provides students experiential and cognitive awareness through affective exercises and readings. It explores issues of living in a diverse society through a variety of educational strategies including workshops, small group process, guest lectures, etc. It represents the seminar portion of P.A.C.E. (Programs for

Awareness in Cultural Education): An "Educating the Peer Educator" Program.

SM 567. Internship: ICC. (C)

Moore/Pomerantz. Prerequisite(s): Eight or more courses toward M.S.Ed. degree in Intercultural Communication. Permission needed from department.

All students in the MS/ICC program must complete a supervised internship of at least 160 hours prior to enrolling in this course. The supervised internship is individually designed and is subject to approval; students must submit a Prospectus describing the internship in the Fall or Spring semester prior to beginning the internship. This course offers guidance as students complete the portfolio or reflective paper, which is based on the experience and data collected during the internship. Through this course, students in the M.S.Ed./ICC program will discuss ways to conceptualize the internship experience, situate it meaningfully within the field of intercultural communication, locate and analyze relevant research literature, and prepare the portfolio or reflective paper, with an overall goal of developing the ability to communicate clearly and effectively for an academic and/or professional audience.

571. History of the English Language. (M) Staff.

A survey of the major historical trends in the development of the English language.

572. (GSWS572) Language and Gender. (B) Pomerantz.

This course traces the development of research on language and gender, introducing key theoretical issues and methodological concerns in this area. Participants will consider how gender ideologies shape and are shaped by language use, with particular attention to how research findings can be applied to educational and other professional settings.

SM 577. Selected Topics in Educational Linguistics. (C) Staff.

The focus for each semester will vary to reflect those issues most relevant to current concerns in educational linguistics.

579. Intercultural Communication and Miscommunication. (L) Staff.

An introduction to basic issues in intercultural communication, reviewing various perspectives on the nature of culture, communication, "miscommunication" and inter-cultural relations. The course criticizes two commonly held assumptions: 1) that "cultures" are unitary and unchanging and

2) that inter-cultural contact and communication is inherently more troublesome than intra-cultural communication. The course considers ways in which intercultural communication has important consequences in education, medicine, social services, business settings, and international contact situations.

583. Content-Based Instruction. (M) Staff.

This course offers students opportunities to investigate, observe, design practice, and critically evaluate the integration of content and language teaching - Content Based Instruction. The settings investigated include thematic English Language teaching; co-teaching and peer coaching by ESL and content teacher teams; and sheltered content instruction, among others. Standards, integrations of tasks, and special language requirements in various content areas are reviewed.

634. Language Assessment. (B) Butler.

This course concerns a basic theoretical and practical foundation in language assessment, with particular emphasis on assessments used in second and foreign language education. The course covers various kinds of testing (both formal testing and performance-based assessment), theoretical and technical issues associated with test development, administration, the social influences of testing, and future directions in language assessment.

637. Advanced Methods in TESOL. (M) Staff.

Students employ action research techniques and case studies to investigate challenges in teaching second languages in a variety of classroom settings. Fieldwork in teaching ESL forms the basis for a course paper. Based on student self-evaluation, class members also review and deepen knowledge of such L2 teaching issues as form focus within task-based and content-based instruction, learning strategies in second language teaching, and materials adaptation. Readings on research and theory in second language pedagogy lead to a critical consideration of the construct of "methodology" within the diverse sociocultural contexts in which they plan to teach.

641. Language and the Professions. (L) Wagner,S.

This course takes a micro-analytical perspective on interaction and language use in various institutional domains. Topics include doctor-patient interaction in diagnosis and treatment; trial examination

and jury deliberations, as well as informal modes of conflict resolution; and news and political communications. Attention is focused on the interrelationships between interactional practices, institutional tasks and social identities. Students will be given opportunities to mutually engage in hands-on data analysis during the class.

650. Communication and Culture in Context. (B) Pomerantz/Paninos.

This course brings together scholarship in pragmatics, interactional sociolinguistics, and critical discourse analysis to help language teachers and intercultural educators foster pedagogies that respond to the complexities of living in a multilingual/multicultural society. Through a series of readings, small research projects, and activities, participants will develop a collection of educational practices that focus on 1) raising metalinguistic awareness, 2) developing resources and strategies for communicating across perceived social and cultural boundaries, and 3) assessing intercultural interactional competence.

661. (LALS661) Language Diversity and Education. (A) Hornberger. Permission needed from the department.

Exploration of issues affecting educational policy and classroom practice in multilingual, multicultural settings, with an emphasis on ethnographic research. Selected U.S. and international cases illustrate concerns relating to learners' bilingual/bicultural/biliterate development in formal educational settings. Topics include policy contexts, program structures, teaching and learning in the multilingual classroom, discourses and identities in multilingual education policy and practice, and the role of teachers, researchers, and communities in implementing change in schools.

670. Second Language Development. (C) Butler/Larsen-Freeman/Hondo.

This course provides an introduction to theory and research on second language acquisition. Linguistic, cognitive, social and pedagogical perspectives are considered through readings, lectures, activities, and assignments. Students gain an understanding of research design, methodology, and documentation through guided analysis of published studies and an opportunity to design and implement research projects.

674. Curriculum and Materials Development for English Language Teaching. (A) Hondo. Prerequisite(s): EDUC 527 & EDUC 537 or permission from instructor.

This course is designed for those who are ready to develop skills in curriculum, course and materials design. The objectives of the course include learning how (a) to become able to analytically respond to readings on curriculum, course and materials development; (b) to analyze the sociocultural, economic, linguistic and occupational contexts of language teaching programs; (c) to design an original semester-long ESL/EFL course; (d) to design original pedagogical tasks and supplementary materials; and (e) to design in a group. EDUC 527 & EDUC 537 provide essential background for this advanced course.

675. Structure of English. (C) Staff.

The goal of this course is to increase students' explicit knowledge of selected isolatable parts of the English language and to identify their pedagogical applications with respect to the needs of learners of English as a foreign/second language. This goal is realized through an investigation of: 1) frequently occurring linguistic forms and the rules and principles that govern the way that these forms can be combined and ordered; 2) the meanings that can attach to these forms; and 3) the social functions associated with these forms.

676. Discursive Approaches in Intercultural Communication. (A) Rymes/Moore.

This course offers a discourse-based approach and hands-on introduction to the field of intercultural communication, from the micro-level of interpersonal interaction to the macro-level of institutional practice. Through a series of readings and service learning projects in multicultural settings, students will hone their observational and analytic abilities, while gaining an appreciation of and facility for participating in the communicative diversity around them. Topics will include a repertoire approach to examining language in use, interpretation and metacommentary, and the possibility of intervention to facilitate new communicative patterns.

679. Language for Specific Purposes. (C) Pomerantz/Paninos.

This course offers international students a hands-on introduction to the practices that constitute academic language use in the fields of TESOL/ICC through a variety of scholarly readings that also serve as an introduction to multilingual writing

research. Participants will focus on developing skills and strategies that will strengthen their existing expertise in the following areas: locating, reading, and critiquing academic articles; producing graduate-level written work across a variety of genres; and participating in oral activities.

SM 845. Seminar in Microethnography. (M) Staff.

This course provides an introduction to theory and method in the unified analysis of verbal and nonverbal behavior as it is culturally patterned, socially organized, and socially organizing in face-to-face interaction, in an approach that integrates participant observation with the detailed analysis of audiovisual records. Students read relevant literature in linguistic anthropology, interactional sociolinguistics, conversation analysis, and embodiment in social interaction. Class requirements include in-class reading presentations, a small microethnographic research project, and several short data analysis reports drawing on differing levels of analysis and differing theoretical orientations. Students review and apply methods of audiovisual data collection, transcription, processing, archiving, and presentation.

911. Issues in Second Language Acquisition. (M) Butler. Prerequisite(s): EDUC 670. Permission needed from instructor.

This course is designed for students to be able to analyze, synthesize and discuss second language acquisition theory and research on the basis of intensive reading of work that reflects perennial and current issues in the field. Comparisons and connections are drawn from theoretical and empirical literature on second language acquisition processes, constraints, and interventions.

Relevant research methods are also addressed. Topics, issues, and readings are updated each time the course is offered.

SM 927. Research Seminar: Language Policy and Education. (M) Hornberger. Permission needed from instructor.

Seminar participants are introduced to concepts, theories, and methods in the field of language planning and policy, which they then apply in developing their own library-based research on specific language planning cases from around the world. Cases may include: official language decisions, instructional medium choices, literacy initiatives, gender-neutral language reforms, foreign/heritage/second language pedagogy and policy, indigenous language

revitalization efforts, or other language-related decisions and policies at international, national or local levels.

APHD-Applied Psychology & Human Development

522. (AFRC522) Psychology of the African-American. (B) Stevenson.

Using an Afro-centric philosophical understanding of the world, this course will focus on psychological issues related to African Americans, including the history of African American psychology, its application across the life span, and contemporary community issues.

SM 534. School-Community Counseling & Mental Health Partnerships. (M) Staff.

This course is designed to give students a theoretical framework for developing school-community partnerships for the delivery of mental health prevention and intervention services to children. The course will include examination of several practice programs developed from the theoretical framework to provide services to parents, children, and school staff, including pairs therapy for the development of relationship skills and understandings; a whole-class prevention program to build social-emotional and academic skills in elementary children; and a preventive intervention to build capacity in Head Start to engage parents facing adversities such as depression.

553. Foundations of Education for Diverse Learners. (M) Staff.

An introduction to Special Education including the history, the legal regulation of Special Education, and an examination of critical issues.

557. Developmental Theories: Applications with Adolescents. (C) Nakkula.

Focuses on theories of adolescent development and the nature of transactions among adolescents, peers, teachers, specialists, and significant others. Also covers methods of intervening to promote psychological growth.

558. Developmental Theories: Applications with Young Adults. (M) Staff.

This course is designed as a collaborative inquiry toward constructing and elaborating upon theories of young adult development and interactions with young adults as counselors, teachers, family members, and higher education administrators. Using a

seminar or working group format, participants explore the relationships among developmental theory, sociocultural contexts of young adults, practice (e.g., interventions, relationships), and research. Using literature from empirical and popular, mainstream sources, participants will engage in learning of how young adults navigate the transition from adolescence to adulthood. Specific topics to be addressed include, "the quarterlife crisis," financial needs of young adults, relationships, family, and career exploration and crystallization.

560. Human Development. (C) Fegley/Frye.

Provides an introduction to physical, social, cognitive, emotional and linguistic development from infancy to adulthood. Major theories related to human development will be discussed along with methods of intervention for individuals in various life stages.

561. Adolescent Development. (A) Fegley.

An interdisciplinary view will be used to frame biological, psychological, and social development among adolescents. Special emphasis will be placed on how contextual factors influence developmental outcomes. Theories of adolescent development and methods of intervention will also be discussed.

562. Personality & Social Development. (A) Chen.

The effects of social processes on human development in the interlocking contexts of parents, family, peers, school, communities and culture are considered during the major developmental periods of infancy, childhood, adolescence and adulthood. The course examines what is unique about social developments, how social relationships can be defined, and what are the social precursors and consequences of specific developmental changes.

565. Contemporary Issues in Community Psychology. (M) Staff. Prerequisite(s): EDUC 686.

This course focuses on three related issues. The history and evolution of community psychology within the political, economic and scientific contexts is the first issue. Second, students examine the discipline's distinction between community mental health and community psychology. Third, students examine the implications of disease prevention and health promotion for the discipline's current status and future development.

568. Cognitive Development. (A) Frye. Prerequisite(s): EDUC 560 or equivalent.

This course examines the cognitive development of the child from infancy to adolescence with an emphasis on cultural context. Topics include: origins of thinking, Piaget, Vygotsky, intelligence, development of learning and memory, language development, and moral development.

574. (AFRC574) Race/Ethnicity in Human Development. (M) Staff.

This interdisciplinary course will employ a critical perspective on minority youth development, analyze the existing literature, and propose alternative explanations for observed phenomena. It will consider pertinent issues and theories of middle childhood, adolescent and young adult development.

SM 575. (AFRC575) Topics in the Psychology of Education. (M) Staff.

This course is designed to introduce students to innovative approaches to the psychology of education, especially with regard to populations from at-risk contexts, sociocultural dimensions of education, and social-emotional learning.

580. Developmental Theories & Applications with Children. (B) Fantuzzo.

The purpose of this course is to provide students with an opportunity to consider mandates, models, and methods related to enhancing the learning and development of preschool and early elementary school children. This course emphasizes the application of developmental psychology and multicultural perspectives to the design of effective classroom-based strategies. Students will consider a "whole-child" approach to understanding children's classroom behavior in context. Major assignments will involve gathering and synthesizing information about children in routine classroom situations. This information will be used to better understand children's needs and strengths and how they are manifested in transaction with classroom contexts. Students will focus on one or more students to conduct a comprehensive child study of the child in context.

This contact must include opportunities to observe children in a natural setting and interact with them on a regular basis throughout the semester. The placement needs to be approved by the professor. If students do not have a regular classroom contact, one will be arranged.

581. (GSWS581) Advanced Psychology of Women: Counseling Issues for Women. (L) Staff.

Prerequisite(s): Introduction to Psychology and an undergraduate course in the Psychology of Women or approval by professor.

The course is intended for those who already have a foundation in the study of the psychology of women and want to expand their understanding of the provision of psychological services to include a contextual, feminist, and relational perspective. Theoretical and applied practices regarding women's mental health, issues of diversity, sexuality and relationships for women will be addressed

585. Advanced Group and Family Counseling. (L) Lappin. Prerequisite(s):

Students must be enrolled in the M.Phil.Ed. in Professional Counseling Program.

This course focuses on the basics of systems intervention with a specific focus on families and groups. The purpose is to develop more advanced knowledge of practical therapeutic problem-solving skills at the graduate student level using ecological, systemic, and cultural perspectives. Students will be exposed to advanced group therapy strategies with children, youth, and adults, with family interventions across various mental health diagnostic populations, and how to intervene within groups and families in which cultural differences and styles are key themes.

Students will also be challenged to develop a preliminary rationale for a systemic theory of behavior change. Given the diversity of clients that counselors see professionally, some advanced and demonstrated knowledge of how cultural differences will be addressed in the counseling session and in the relationships of larger societal institutions will be expected. This course will satisfy the Group work II requirement of the MPE program in Professional Counseling and Psychology. The course also fits within the APHD theme of Applied Psychology: Intervention and Certification.

603. Wellness and Addictions Counseling. (A) Staff. Prerequisite(s):

Students must be enrolled in the M.Phil.Ed. in Professional Counseling Program.

This course will provide an overview of addictions and addiction counseling from research, theory, and applied perspectives. It will also explore contemporary conceptions of "wellness" and wellness-promotion strategies, particularly for people struggling with addictions. Applied skills for addressing wellness and addiction

will be framed within current evidence-based research.

610. Cultural Perspectives on Human Development. (A) Chen.

This course focuses on children's and adolescents' development from cultural and cross-cultural perspectives. Topics include traditional and recent theories of cultural influence on development, research strategies, socialization values and practices, and socioemotional and cognitive functions such as aggression and conflict, shyness, and academic achievement in cultural context. Issues involving ethnicity and social and cultural changes are also discussed.

612. (GSWS612) Interactional Processes with LGBT Individuals. (M) Staff. Prerequisite(s): EDUC 663

Socio-Cultural Foundations/Applied Psychology.

In the past quarter century, the awareness of the unique issues facing lesbian, gay, bisexual and transgender (LGBT) individuals has expanded and become essential knowledge in our work as educators, providers of psychological services, and other service provision fields. This course provides a contextual and applied understanding the interactional processes facing LGBT individuals.

613. Group Counseling. (B) Staff.

Through didactic and experimental learning activities, students will explore various theoretical approaches to groups, learn and apply principles of group dynamics, develop familiarity with ethical, legal and professional standards relative to group leadership, learn member roles and functions in group, examine group counseling in a multicultural context, and relate these issues to the leader's interpersonal style and behavior. Applications to specific developmental stages and contexts will be explored.

615. Parenting and Children's Educational Development. (M) Staff.

Theory and research on family influences on achievement development, models of the home-learning environment; parental involvement in schools.

617. Counseling for School to Career Transitions. (B) Nakkula.

This psychology course will focus on the developmental and emotional changes that coincide with adolescents' conceptions of work and work-related activities. As a course in career psychology, students will be exposed to readings from multiple disciplinary perspectives and will be

expected to learn how to work with youth as they struggle through decisions on career and moving beyond the safety of childhood and adolescence. In addition, students will learn about the family-youth and school-student relational dynamics and that occur simultaneous to the adolescent's development of a work ethic.

623. Childhood Interventions. (M)

Staff. Prerequisite(s): EDUC 560 Human Development.

The course addresses the following key questions: what is early childhood intervention? What was it, and what has it become? What are its historical roots in child development research, early childhood education, special education, and maternal and child health? However, while addressing earlier conceptual issues, this survey course also links these conceptualizations to contemporary developments in the field that are of special significance to educators.

658. Diagnosis and Psychopathology. (M) Richardson.

In this course, students will explore the etiology, course, and prevalence of psychological disorders of childhood and adolescence. Particular focus is on the role of these issues in the developing person within the context of family, school, and culture. Major clinical and empirical classification systems (DSMIV and the new DSM5) are examined, as well as some of the diagnostic and assessment strategies used to aid the conceptualization and treatment of these disorders.

663. Sociocultural Foundations in Counseling. (B) Warren/Staff.

The course provides an understanding of sociocultural concepts essential to the work of counselors and providers of psychological services. This course provides a contextual and applied understanding of working with socioculturally diverse clients. The purpose of this course is to expand one's understanding of the impact of sociocultural and contextual factors, social-psychological influences, the role of values, and the interaction of identities in counseling and psychological services. Both intervention and prevention strategies will be addressed. The student will be required to demonstrate a working knowledge of key concepts in sociocultural psychology and the topical areas addressed in the course.

677. Information and Communications Technologies for Education and Development in Global Perspective. (B) Wagner.

The importance of the relationship between education, technology, and social-economic development is increasing in the U.S. and around the world. What are new information and communications technologies (ICTs), how are they being deployed, and for what reasons? Are new ICTs a means for delivering skill-based or distance education information, and in what ways are they becoming a part of societies today? What constitute, then, ICTs for Development (ICT4D), and what role do they play in societies that are 'industrialized' and 'developing'.

685. Career Counseling and Development. (L) Staff. Prerequisite(s): Permission needed from instructor.

Career development is studied as an aspect of general development theories of educational and vocational choice and adjustment; psychological aspects of occupations.

686. Counseling Interventions. (A) Staff. Prerequisite(s): Admission to Counseling and Mental Health Services.

This course will provide an overview of the approaches to various psychological interventions with a focus on theory, key concepts, and therapeutic processes. The purpose of this course is to develop a knowledge base of the underlying principles and approaches of psychological interventions. Students will be required to demonstrate a working knowledge of the key concepts of the psychotherapeutic approaches presented, distinguish between different approaches, and make a preliminary rationale for the use of a particular approach. Students also are expected to develop a critical perspective and demonstrate the ability to analyze theories and interventions.

687. Counseling Ethics & Professional Principles. (A) Staff.

This course will provide the student with an opportunity to learn and incorporate the multifaceted roles of the professional counselor and assist the student in developing a sense of their professional identity. In this process, the course will focus on the professional role of the counselor; ethics and their application across situations and professional settings; and gaining strong professional communication abilities. The primary goals of the course are to develop the student's awareness of their roles and responsibilities as a professional,

incorporating ethical standards as a counselor, increasing professional communication skills, and understanding the roles of counselor across professional settings.

688. Counseling Practicum. (E) Staff.

Seminar and lab to accompany supervised practicum or apprenticeship experiences in schools, colleges, or community agencies. Placement to be arranged by instructor.

697. Post-Master's Internship in School Counseling. (M) Staff.

Prerequisite(s): Successful completion of the master's program in Psychological Services.

Seminar to accompany post-master's internship. Meets requirements for certification in school counseling and special education. Instructor must approve placement.

709. Peer Relationships in Childhood and Adolescence. (B) Chen.

This course focuses on various aspects of children's peer relationships, especially with regard to their significance for human development. The roles of family, community, and socio-cultural contexts in the development of interpersonal competence and relationships are discussed. The course explores possible intervention strategies to help children with peer relationship difficulties.

717. Professional Internship in Counseling I. (A) Watts. Prerequisite(s):

Formal admission into Professional Counseling and Psychology M.Phil. Program.

The course will consist of experiential and small group learning, with a focus on practicing and refining skills related to advanced work in psychological services, including the application of various techniques of counseling, ethical considerations, and critiques of live and simulated counseling sessions through role-playing, audio and visual taping.

718. Professional Internship in Counseling II. (B) Watts. Prerequisite(s):

Students must be enrolled in the M.Phil.Ed. in Professional Counseling Program.

Lab seminar group with a seminar group leader is the second component of the Professional Counseling Internship course. Lab will provide students with exposure to others' experiences in different types of internships, working with a variety of different client populations.

A primary goal of this course is to help each student refine his/her evolving knowledge of self as a provider of

psychological services to others. Students will also evaluate contexts of practice and the professional skills, ethics and practices inherent in effective provision of counseling and psychological services.

This course consists of two components: CLASS MEETINGS, during which the full group will meet to address issues related to work in various internships, as well as discuss the development of advanced counseling skills and issues; and, LAB SEMINAR GROUP, which consists of 7-8 masters students with a seminar group lab leader.

725. Advanced Ethics & Professional Development in Counseling. (B) Staff.

Prerequisite(s): Students must be enrolled in the M.Phil.Ed. in Professional Counseling Program.

The purpose of this course is to expand the student's awareness of the multifaceted responsibilities and roles of school counselors in primary and secondary school settings. Through readings, class discussions and guest lectures, it is intended that students will acquire additional competencies and a broader appreciation for professional issues confronted by school counselors and varied responsibilities they have in helping students focus on academic, personal, social and career development in an effort to achieve success in school and lead fulfilling lives. An important emphasis of this course will be on school counseling from an ecological and multicultural perspective.

747. Biological Psychology. (M) Staff.

The biological bases of behavior, including genetics, physiology, endocrinology and bioethology.

764. Cognitive Processes. (A) Frye.

Prerequisite(s): EDUC 568 or equivalent.

Basic concepts, theory, and research in cognitive science, problem-solving, psycholinguistics, memory, perception and social cognition. Special topics may include reading, bilingualism, computer modeling, and cognitive theory applied to education and non-education settings.

765. Developmental Deviations. (M)

Staff. Prerequisite(s): EDUC 560 or equivalent.

Theoretical orientations toward handicapping conditions in children; controversial issues in description and categorization; the relationship of disabilities to developmental (cognitive, social, emotional) processes.

766. Advanced Professional Counseling Interventions. (A)

Morris/Stevenson. Prerequisite(s): Admission into Professional Counseling M.Phil.Ed. Program.

This course will focus on advanced issues in the clinical practice of professional psychology with children, adolescents and adults where students will practice clinical skills in role-played therapeutic situations. Students will be using this class as preparation for the formal clinical examination required by all Master of Philosophy in Education students prior to graduation from the Professional Psychology and Counseling program.

782. Assessment for Counselors I. (A)

Staff. Prerequisite(s): Admission to Professional Counseling M.Phil.Program.

A critical analysis of tests and clinical methods in assessment as related to theories of intelligence, and includes: 1) factors influencing assessments; 2) assessment theory; 3) assessment practices; 4) interpretations of assessments.

783. Assessment for Counselors II. (B)

Staff. Prerequisite(s): Admission to Counseling and Mental Health Services or Professional Counseling M.Phil.Program.

Review and administration of assessment instruments in the areas of adaptive behavior, perceptual abilities, neurological functioning, diagnostic and achievement measures, vocational interests, and objective personality measures. Integration and interpretation of results and intervention.

784. Psychological Consultation. (M)

Staff. Prerequisite(s): Admission to Counseling & Mental Health Services or Professional Counseling M. Phil. Program.

Study of theories of consultation and their applications at the professional level. Methods and procedures in applied behavior analysis are introduced as skills for successful consultation.

785. Selected Topics in Professional Psychology. (M)

Staff. Prerequisite(s): Admission to Counseling & Mental Health Services or Professional Counseling M. Phil. Program.

Consideration of research and theory, on selected advanced topics.

SM 860. ISHD Proseminar: Exploring Self in Developmental Context. (A)

Stevenson.

This course gives students the opportunity to better understand their own psychological development and how this

interacts with their scholarship and professional development. Required course for ISHD students.

960. Advanced Research in Human Learning and Development. (M)

Frye. Selected topics from human learning, human development, cognitive processes, social psychology, and personality.

SM 980. Research Seminar in Counseling. (M)

Staff. This course is designed to position students to acquire a more sophisticated understanding of research methods in order to conduct and critically evaluate empirical research in applied and clinical settings.

EDCE-Continuing Education*PLN-Penn Literacy Program***661. PLN 3B: EXTENDED.**

675. PLN 14B: Child of poverty: Using PLN Frameworks to Positively Impact Student Engagement. Gephart, K. Prerequisite(s): PLN 14.

This course provides educators with an opportunity to look closely at a research-based professional text: *Engaging Students With Poverty in Mind* by Eric Jensen. The content of the text describes factors that are crucial to student engagement strongly connected to socioeconomic status. Engagement strategies educators can use are explored that empower learners and are essential for student achievement and success.

The course focus includes: creating a positive and high-energy classroom environment focused on student engagement, building students' cognitive capacity including a deeper understanding of content and increasing student motivation and effort. Participants learn and utilize a variety of strategies that can be modeled in the classroom with their students when reading and writing, as they participate in group reading discussions. Co-construction of learning and a focus on *The Four Lenses of Learning* and *The Five Reading Writing Talking Processes* provide the foundation for course discussions.

676. PLN1 For Early Childhood Directors. Botel-Sheppard, B / Saia, A.

During this course early childhood center directors learn about best literacy practices for emergent readers and writers as they support teachers with practical and enduring frameworks and strategies (*The Five Emergent Reading Writing Talking Processes* and *The Four Lenses of*

Learning) that can be adapted to their specific setting and their teachers' and students' needs. Directors are introduced to strategies that provide their teachers with ongoing instructional problem solving throughout the course.

This course integrates instructional leadership strategies that provide common language and classroom approaches that create positive and successful early literacy experiences as they increase student engagement, fostering positive emergent reading, writing and talking experiences in the classroom. Directors gain a deep understanding of developmentally appropriate practice based on engaged and reflective teaching and learning. Directors are asked to bring a children's book used in their center to each class.

Directors try out their favorite strategies in their center between sessions so that they can reflect on the impact of this type of practical implementation in their classrooms. Directors are also introduced to professional readings that are discussed in class. They write up their try-outs in the form of ongoing reflective journals and a final project (action plan) to share with colleagues.

681. PLN13E: Literacy Study Group.

This course provides an opportunity for educators to take an in-dept look at a research-based, professional text that focuses on best practices across the curriculum. Past courses have explored texts on supporting English Language Learners, helping all students succeed through understanding cognition, content area writing, supporting special needs learners, and implementing a *Writer's Workshop* in the language arts classroom. Schools may choose a variety of Study Group courses tailored to their needs. A professional text is selected with consideration to each school/district needs. In addition to in-depth exploration connected to the content of the selected text, participants learn a variety of ways to approach book talks that encourage rich, meaningful discussions. Participants engage in a range of group reading talks and strategies for accessing text content, and are encouraged to try these techniques with their students. For this course, participants purchase *Poetry Mentor Texts, Making Reading and Writing Connections* by Lynne R. Dorfman and Rose Cappelli.

HED-Higher Education**504. Contemporary Issues in Higher Education. (B)** Staff.

An introduction to the central issues and management problems in contemporary American higher education.

SM 505. Globalization & the University. (B) Ruby.

The aim of this course is to help students understand the basic concept of globalization, how it impacts higher education in general, and how it shapes the global market for human capital and fosters private sector and for profit provision and diversifies modes of delivery of higher education. The seminars cover the nature of globalization and the way it affects the movement of people between economies to gain and apply skills and knowledge, the creation of branch campuses, the growth of transnational education and the importance of brands and information in the global higher education market.

SM 510. Democratizing Higher Education Participation: Six National Cases and the Global Allure of MOOCs. (B) Ruby,A.

The aim of this course is to examine how public policy has shaped and been shaped by higher education in different political and economic settings. Seminars will examine themes such as access and equity in higher education participation, the role of higher education in economic development and nation building, and how higher education can promote democracy and an enlightened citizenry.

512. University-Community Partnerships. (B) Grossman.

Ranging from civic engagement to economic development, institutions of higher education in the United States have long been involved in a variety of relationships with their local communities; in recent years, there has been increasing attention paid to the opportunities and challenges implicit in those relationships. In this course, students will study and discuss the history, rationales, and manifestations of the partnerships that have developed. Through readings, faculty-and student-led discussions, guest lecturers, and policy-oriented projects, students will develop better understandings of the many topics surrounding university-community partnership activities. Among other themes we will consider institutional roles and relationships, service learning, community perspectives, policy issues, and evaluation.

541. Access & Choice in American Higher Education. (M) Perna.

College enrollment is a complex process that is shaped by the economic, social and policy context, higher education institutions, K-12 schools, families, and students. The course will examine the theoretical perspectives that are used to understand college access and choice processes. The implications of various policies and practices for college access and choice will also be explored, with particular attention to the effects of these policies for underrepresented groups. As an Academically Based Community Service (ABCS) course, this course is also designed to generate tangible recommendations that program administrators and institutional leaders may be used to improve college access and choice.

542. Management in Higher Education. (B) Staff.

This course is an introduction to management issues and practices in higher education. It is designed to provide students with working understanding of both the role of administration within the culture of higher education and the contemporary issues related to management of fiscal, personnel, facilities, and information resources. The interface between administrative and academic decision-making will be explored within these contexts and case studies will be used to highlight the concepts.

SM 543. (AFRC545) UNDERSTANDING MINORITY SERVING INSTITUTIONS. (A) Gasman.

Students taking this course will learn about the historical context of HBCUs in educating African Americans, and how their role has changed since the mid-1800's. Specific contemporary challenges and successes related to HBCUs will be covered and relate to control, and enrollment, accreditation, funding, degree completion, and outreach/retention programming. Students will become familiar with MBCUs in their own right, as well as in comparison to other postsecondary institutions.

556. Higher Education Finance. (B) Finney.

Designed for non-financial managers, this course provides students with an introduction to basic concepts related to the finance of higher education. It examines the forces that influence the financing of higher education at both the state and federal levels. It addresses both the macro-economic and micro-economic issues

related to higher education finance. In addition, students will be introduced to issues related to institutional finance.

569. Administration of Student Life. (A) Staff.

This course covers a variety of issues in the management of student services on campus. After examining the historical context of student affairs and the theoretical frameworks of student development, students explore ways to most effectively administer the numerous activities that comprise student affairs programs.

SM 573. Higher Education Policy : What Can We Learn from Other Countries?. (A) Ruby/Eynon.

This course examines the proposition that policy makers, educational leaders and practitioners can learn from what has worked and failed in higher education policy and practice in other nations.

592. Professional Development in Higher Education. (B) Aikins.

To prepare for a career in higher education, students are engaged in a 20-hour a week assistantship in the field. This course complements and enhances the graduate assistantship. Emphasizing practical application of theory and skill development, the course does the following: provides students with tools to embark on a successful job search; offers networking opportunities with administrators in higher education; and introduces students to relevant and timely literature and resources in higher education professional development.

593. Experiential Learning Design for Intercultural Communication. (B) Staff.

Prerequisite(s): EDUC676 or permission from the instructor.

Provides new and experienced educators the opportunity to learn and practice training design and facilitation using the principles of experiential and adult learning.

594. Diversity in Higher Education. (B) Harper,S/Tiao.

This course explores issues of diversity as they pertain to higher education, including race, ethnicity, gender, class, religion, sexual orientation, ideology, etc. Rather than focusing on specific populations of people, the course will tackle issues of diversity within the context of concrete higher education functions and problems.

SM 604. Ethics and Leadership in Higher Education. (A) Armacost.

This course looks critically at the various theories of leadership with a special emphasis on the ethical dimensions of leadership. Initial classes are devoted to common ethical frameworks from Plato and moving through Kant, Hume and into the present practical application of ethics to leadership. Leadership theory and practice reveal that there is no one approach that is best or that works in all situations. Aspiring leaders must have a variety of lenses through which they can analyze and understand the elements involved in ethical leadership. At the end of the course students will be able to apply essential concepts of ethical decision making and leadership - the role of trust and the ability to build trust, the uses of power, the importance of good decision-making, the conflicting priorities that arise from living out your core values in the workplace.

606. Development in Higher Education. (B) Gasman.

This course is designed for current aspiring professions in the area of fundraising and institutional advancement. Topics will include: a history and overview of philanthropy, motivations for giving, ethics, fundraising courses, leadership, annual giving, public relations, and volunteer management. Special emphasis will be placed on fundraising in communities of color.

607. Faculty and Academic Governance. (A) Hartley/Garland.

Introduction to selected issues pertaining to faculty and academic governance, such as: Who governs American colleges and universities? What are the respective roles of the president, the board of trustees, the faculty, and students in institutional decision making? The course will also explore key contemporary governance issues.

608. Organizational Change in Higher Education. (M) Hartley.

Colleges and universities today face tremendous challenges--calls by external constituents for greater accountability, scarcity of resources, greater competition, and pedagogical innovations. The need for change, and for change agents, in our institutions of higher learning has never been greater. This course examines organizational change both theoretically and practically in college and university settings. Students will be introduced to many of the most current, influential, and promising theories about how change occurs at the departmental, institutional and

system level. Using case studies, we will apply these frameworks in order to diagnose and develop constructive strategies for meaningful change.

SM 620. Enrollment Management. (B) Kaplan.

Enrollment management is an organizational concept of strategies for achieving institutional goals. The course provides an overview of multiple enrollment management models, the evolution and maturation of these models, the related implications of these organizational structures and strategies, and the benefits and drawbacks on institutions and their markets. This course is designed primarily for masters-level students.

SM 624. Gender in College. (A) Harper.

Examined in this course are theories and interdisciplinary perspectives pertaining to gender on college and university campuses. Emphasis is placed on the social construction of gender, gendered institutional norms and practices, gender disparities on college campuses, and the unique experiential realities of women, men, and transgender persons in a variety of roles and postsecondary educational contexts.

631. Research Topics. (B) Staff.

Prerequisite(s): Permission needed from department.

This seminar offers students a collaborative setting in which to explore a topical area, craft a literature review and refine their research questions. The course will be of special interest to doctoral candidates who are drawn to an area of inquiry (e.g., presidential leadership, diversity, access, organizational change) but now wish to elicit from it a discrete "researchable" question.

640. History of American Higher Education. (A) Gasman.

This interactive course focuses on the history of American higher education from the Colonial period through the current day. An emphasis is placed on underrepresented institutions and individuals. Students will have the opportunity to make connections between historical trends and movements and current issues.

642. Higher Education in American Society. (A) Perna.

Our nation's colleges and universities are affected by social, economic, and political forces. Societal forces impose a variety of demand on higher education institutions, as reflected by calls for greater accountability, improved access, cost containment, and

incorporation of new technologies. This course considers the ways that colleges and universities are challenged to respond to demands for increased accountability while maintaining their commitment to such core values as academic freedom and institutional autonomy.

656. College and University Teaching. (C) Staff.

In this class, students will learn how to systematically plan for a university course, develop a teaching philosophy, create a course syllabus relevant to their discipline and expertise, design and implement evaluation instruments to assess teaching and learning, experiment with a range of technologies to advance teaching, and participate in a teaching simulation. This course also incorporates issues of diversity with regard to teaching.

SM 693. Student Development in College Environments. (A) Staff.

An overview of college student development theory is offered in this course. Specifically, three families of theory are explored: 1) Psychosocial and identity, 2) cognitive-structural, and 3) environmental. The theories are discussed in terms of their foundations, constructs, and applicability to work in various functional areas of higher education.

694. Organization and Administration of Intercollegiate Athletics. Harper,S.

Athletics play a critical role at colleges and universities. This course examines the role of intercollegiate athletics, how they are structured, what educational purposes they serve and how such programs influence the social and academic development of students.

704. Economics of Higher Education. (M) Presley.

Covers selected topics in the economics of higher education, including investment and consumption theories, cost functions, university investment practices and principles, and academic labor markets.

705. Proseminar in Research & Analysis. (A) Perna/Hartley.

Prerequisite(s): Permission needed from department.

This course is designed to provide students with the skills, information, and resources that are necessary to develop a research proposal. This course will also examine strategies for completing proposals and dissertations. A variety of research designs and approaches to educational research will be explored. Through this course, students

will become both informed consumers of research and effective designers of research.

714. Law and Higher Education. (B)
Roth.

An examination of the most important state and federal laws governing U.S. colleges and universities, with an emphasis on current legal problems.

715. Case Studies in Higher Education Administration. (M)
Harper, S.

This course is designed to enhance understanding of decision making in higher education administration. Based on case studies, students will analyze, propose policies, generate action plans and implementation procedures, and assess the potential consequences of their administrative decisions.

716. Public Policy Issues in Higher Education. (M) Finney.

A study of the most influential federal and state policies, legislation and practices affecting colleges and universities.

TLL-Teaching, Learning & Leadership

SM 501. (URBS501) Community Partnerships in Visual Arts & Education. Epstein.

This course will connect students with artists from the 40th Street Artist-in-Residence (AIR) program, which provides free studio space and in exchange asks residents to share their talents with the local community. This course is designated as an Academic-based Service Learning (ABCS) class, meaning that students will be evaluated partly on their work in the community outreach situation.

508. Managing People. (C)
Dwyer/Staff.

Professionals in organizations spend much, and often all of their time, attempting to influence others--subordinates, peers, superiors, clients, boards, owners, regulators, pressure groups, media and others. This course presents an approach to human influence, based on the relationships among values, perceptions, and behaviors.

513. Development of the Young Child. (D) Goodman.

This course will blend an explanatory and descriptive account of behavioral evolution over the yearly years of life. After a review of "grand" developmental theory and the major themes of child change (from images

to representation; from dependence to independence; from instinctual to social beings), this course will survey the child's passage from infancy through the early school years. While the emphasis will be on the nature of the child--what she/he sees, feels, thinks, fantasizes, wants and loves--these realities will be understood in terms of developmental theory. At each stage, the course will review the development of cognition, personal identity, socialization, and morality in pluralistic contexts.

515. Field Seminar (Elementary & Secondary Education). Staff.

This seminar is designed to integrate student teaching fieldwork and university course work through reading, discussion, and reflection. Central to this course will be teacher research, an inquiry stance toward learning how to teach, and a social justice approach to education. Throughout the semester, we will be examining a range of issues through theoretical and practice-oriented lenses that will deepen our understanding of teaching and learning. Offered within the Teacher Education Program.

520. Literacy in Elementary/Middle Schools. Staff.

In this course, the interconnections of language, literacy and culture are explored in order to build a knowledge base and understanding of how children learn to read and write. Emphasis will be on how to teach and develop literacy curriculum in the elementary grades, and on how close listening and observation of children in their classroom contexts, combined with a critical reading of research and theory, can inform teaching practices. A central tenet of this course is that the best teachers of reading and writing are themselves active and engaged readers and writers. An important goal is to combine an inquiry approach to teaching and learning with an inquiry approach to thinking about how we teach. Offered within the Teacher Education Program.

521. Science in Elementary/Middle Schools. (M) Bergey.

The goal of this course is to prepare teachers to facilitate science learning in the elementary and middle school. Special emphasis is placed on striving for a balance between curricular goals; individual needs and interests; and the nature of science. Offered within the Teacher Education Program.

523. Social Studies in the Elementary and Middle Schools.
Staff.

This course will focus on teaching and learning in the content area of social studies. Curricular and pedagogical theories and practices will be examined for their educational significance, meaningful integration of content areas, respect for students' cultures (past and present), and contribution to social justice issues. Offered within the Teacher Education Program

529. Organizational Learning and Education. (B) Supovitz.

This course is an exploration of the theory, research, and practice of how individuals learn within organizational contexts and how organizations themselves may learn, as well as the social, cultural, and organizational forces that influence this process.

SM 530. Community Based Mathematics. (L) Remillard & Staff.
Prerequisite(s): Admission to Secondary Education Math or Science.

This course engages future teachers in identifying and leveraging mathematics learning opportunities that exist within communities. First, participants apply mathematics to authentic community-based problems. After exploring literature about the use of real-world contexts in mathematics instruction, participants apply what they learn to design curriculum. Offered within the Teacher Education Program.

531. Mathematics in the Elementary and Middle Schools. Remillard.

Learning to teach mathematics in ways that foster mathematical understanding and enjoyment for every student requires that teachers draw on different kinds of knowledge, skills, and dispositions. In addition to developing an understanding of central mathematical ideas, learning to teach math involves learning about learners, the understandings and conceptions they hold, and the processes through which they learn. It also involves developing skill in constructing tasks that engage students in mathematical exploration, creating an environment that facilitates reasoning, and finding ways to analyze and learn from one's own teaching. Offered within the Teacher Education Program.

532. School Law. (L) Staff.

This course examines federal and state court cases, statutes and regulations which affect students, teachers, administrators and

other community members involved with schools. There is a special emphasis on developing conflict resolution techniques, including negotiation and mediation, so that legally based disputes are resolved by building relationships rather than adversarial methods, such as litigation.

SM 540. Teaching Diverse Learners.

(D) Watts, Bialka, Kinney Grossman. Prerequisite(s): Permission needed from department.

This course engages student teachers working with diverse learners, presenting factual information about specific areas of need situated within a socio-cultural framework. It addresses content related to both special education and English language learners in four areas: (1) Introduction to Special Education; (2) Learning Categories; (3) Issues in Special Education; and (4) Working with English Language Learners. Offered within the Teacher Education Program

550. Educational and Social Entrepreneurship. Staff.

This course provides an understanding of the nature of entrepreneurship related to public/private/for profit and non-profit educational and social organizations. The course focuses on issues of management, strategies and financing of early stage entrepreneurial ventures, and on entrepreneurship in established educational organizations.

SM 551. Outside the School Box: History, Policy and Alternatives. (A) Johaneck.

This course explores historical and contemporary challenges involved in the policy and practice of non-school education agencies and factors that work in service to local school/community settings. Students will explore several historical case studies, conceptual frames, and current policy challenges, culminating in a community-based research project.

552. Video Games and Virtual Worlds as Sites for Learning. Kafai.

Drawing on work from the education, psychology, communication, and the growing field of games studies, we will examine the history of video games, research on game play and players, review how researchers from different disciplines have conceptualized and investigated learning in playing and designing games, and what we know about possible outcomes. We will also address issues of gender, race and violence that have been prominent in discussions about the impact of games.

554. Teaching & Learning in Urban Contexts. Staff.

This course marks the beginnings of your year-long inquiry as preservice teachers, and hopefully your career-long inquiry as committed educational professionals, into the challenges of and opportunities for teaching and learning in urban settings. The theories and practices explored in this course are offered as foundations for instructional approaches that are intentional, reflective, inquiry-based, and learner-centered. As we investigate multiple dimensions of teaching and learning (curriculum design, learning theories, instructional techniques, etc.), you will have opportunities to both clarify and challenge the assumptions, beliefs, hopes, fears, and goals that you bring to your preparation to teach in urban secondary schools. Offered within the Teacher Education Program.

555. Advanced Field Seminar (Elementary & Secondary Education). Staff.

This course focuses on praxis--the mutually supporting roles of theory and practice that bring rigor and relevance to the work of educational professionals. This course is designed to give student teachers opportunities to develop pedagogical orientations, to learn from "problems of practice" at placement sites, and to enrich student teachers' theoretical and practical knowledge. All of these experiences will inform the master's portfolio and will prepare teachers to continue to see themselves and their practice as continuing sites for research. Offered within the Teacher Education Program.

590. (GSWS590) Gender & Education. (B) Staff.

This course is designed to provide an overview of the major discussions and debates in the area of gender and education. While the intersections of gender, race, class, ethnicity, and sexuality are emphasized throughout this course, the focus of the research we will read is on gender and education in English-speaking countries. We will examine theoretical frameworks of gender and use these to read popular literature, examine teaching practices and teachers with respect to gender, using case studies to investigate the topics.

SM 605. Sustainability in Schools. (B) Ball. Prerequisite(s): Admission to School Leadership Program.

This course looks at the issue of sustainability across three dimensions: financial, environmental and programmatic.

1. The issue of financial sustainability focuses on the need of schools to carefully manage funding sources and expenditures and raise supplemental dollars to underwrite aspects of the mission of the school. Included in this focus will be the topics of marketing, communications, and development. 2. Environmental sustainability is increasingly emphasized by schools as an educational goal and an operating principal. This topic will include incorporating sustainability practices into school wide decision making to build campuses which are increasingly green and less wasteful. 3. The third and final focus of the course, programmatic sustainability, brings together many of the themes of the entire leadership program as it reviews the ways schools must think about new models of educating children including the implications of such issues as emerging research on learning, environmental sustainability, globalization, and equity and access. The course utilizes the conceptual framework for sustainability developed by the National Association of Independent Schools. Offered within the School Leadership Program.

609. Counseling for Educators. (B) Staff.

The purpose of this course is to help professional educators develop an understanding of the major issues involved in trying to help others. To accomplish this, it examines various counseling theories and explores their relevance for working with students and parents as they confront normal issues of learning and development. Through observation, skill building, and practice in natural settings, students will have the opportunity to develop their own grounded theory of helping.

616. Master's Foundations of Teaching and Learning. (A)

Kafai/Yoon/Staff. Prerequisite(s): Permission needed from department.

The course explores theoretical and empirical perspectives on the questions: What is knowledge and knowing? What is learning? What is teaching? How do contexts influence teaching, knowing, and learning? A central goal of the course is to encourage students to consider these questions and their interconnections for themselves, to examine ways scholars and practitioners have answered them, and to develop an analytical framework to use in examining contemporary practices in settings that include formal and informal, urban and international.

618. Leadership in Educational Institutions. (B) Lytle, J.

In this course class members will simultaneously engage in an academic study of educational leadership focusing on Pre-K-12 schools and school districts, and in a continuing leadership development laboratory experience designed to increase one's personal efficacy as leader. A basic assumption for the course is that leadership is a central component of schooling; teaching is considered as foremost a leadership activity, whether with five year olds or high school seniors, and successful schools and districts are assumed to have capable leaders. The course will give particular attention to the recent shift in role expectations for school leaders - from competent manager to accountable instructional leader - and what this shift means in relation to the day-to-day work of educational leaders.

619. (URBS619) Critical Perspectives in Contemporary Urban Education. Staff.

The focus of this course is the conditions for teaching and learning in urban public schools, current theories of pedagogy in urban education, and perspectives on urban reform efforts.

SM 621. Proseminar in Professional Education. (C) Staff.

An integrative seminar that will provide an opportunity to reflect, orally and in writing, on the issues of quality, stability, and change in teaching, curriculum and school organization, toward the aim of fundamental reform in educational practice.

627. Teaching in the Middle and Secondary Schools. Staff.

Content-specific sections of this course (math, social studies, science) will examine approaches in planning, implementing and evaluating methods for teaching science, mathematics and social studies in middle and secondary schools. This course is grounded in the belief that teaching and learning require educators to question our teaching purposes and practices through a process of self-reflection, collegial and student-teacher interactions as well as personal and professional growth. Using a variety of learning theories and perspectives as the foundation for interactive teaching strategies, the stories, questions and contradictions of each content area are examined from a variety of perspectives. Offered within the Teacher Education Program.

630. Curriculum Theory & Foundations. Staff.

Helps students understand the ways that theory can inform and guide practice. It explores how curriculum theories can lead to the development of richer, more effective curricular models. Placing emerging, as well as extant theories within their social/political contexts, this course enables educators to apply multiple lenses for examining, choosing and constructing theories and frameworks suitable to their fields.

SM 632. Leadership in Independent, Public and Parochial Schools. Ball, E. Prerequisite(s): Admission to School Leadership Program.

The challenges of leadership in both independent and parochial schools are important to consider as part of the broader discussion of educational leadership in elementary and secondary education. The course will identify themes that have implications for both private and public schools and will seek to establish interconnections. This course will examine the history and social foundations of independent and parochial education, and will consider issues of leadership that involve working with the various constituencies within schools including board members, faculty, parents, alumni and students. This course will conclude with a consideration of the relationship of independent and parochial schools to public purpose and the overall goals of education within the contemporary society. Offered within the School Leadership Program.

639. Design of Learning Environments. Yoon/Staff.

This course examines different theoretical frames and strategies related to the study and design of learning environments in school, community and online contexts. Physical, social and cognitive aspects of learning situations are considered as students evaluate current research and applications in a variety of existing educational learning environments.

644. Technology-Mediated Teaching & Learning. (B) Staff.

Students in this course will critically evaluate the role of technology in education. Through a range of inquiry projects, research analysis and hands-on experience, students will examine the potential risks and benefits, as well as strategies of use for technology-mediated teaching and learning. Technologies considered will include: skill-building software, microworld software, visualization and modeling tools, internet

search tools, media production tools, and collaboration technologies.

652. Developing Instructional Leadership in Practice. (B) Ball, Brody, Dawson, and Mata. Prerequisite(s): Admission to School Leadership Program.

This course emphasizes how to connect organizational systems with the school's instructional mission. Students investigate how distributive leadership is a key factor in consistent implementation of the instructional mission. The significance of building a community of learners for both adults and children is explored. Participants study the importance of aligning, managing, and evaluating curriculum, instruction, assessment, professional development and instructional support systems with a focus on K-12 student achievement in mathematics and science. Inquiry into effective uses of technology, begun in the fall term, is intensified in this term. Coursework includes interactive case studies, debates, inquiry projects and field investigations. Offered within the School Leadership Program.

653. Field Internship Seminar: Inquiring into Organizational and Legal Dimensions to Principal Leadership. (B) Ball, Brody, Dawson, and Mata. Prerequisite(s): Admission to School Leadership Program.

The course emphasizes that effective schools commit to the ongoing learning of children and adults. Systems thinking provides the lens through which students inquire into how the principal's organizational leadership can support continuous school improvement through attention to school climate, program coherence, and effectiveness of instruction. Students deepen their understanding of law and policy, affecting three significant areas: special education, teacher evaluation, and students' rights. Three focused observations provide opportunities to visit schools engaged in continuous school improvement in mathematics, science and the arts. A University-assigned mentor supervises the work of each student, as the 360 hour on-site internship continues. Offered within the School Leadership Program.

654. Aligning Fiscal, Human and Community Resources in Support of the School's Instructional Mission. (L) Brody, Dawson and Mata. Prerequisite(s): Admission to School Leadership Program.

This course focuses on the effective utilization of resources to serve the mission

of improving student achievement. Connecting the daily decision-making of the school, including managing budgets and funding streams, utilization of space, use of time, and scheduling and assignments of staff and students in accordance with the school's mission are emphasized. Students pursue an understanding of how a school leader has a public role as an advocate, catalyst, and broker, in spanning the boundaries between schools and the communities they serve. Students develop inquiry projects to further their knowledge of community resources, budgeting, legal principles, school law and school district policies. The Cumulative Portfolio is presented at the end of this course. Offered within the School Leadership Program.

655. Fieldwork & Mentoring. (C)
Ravitch.

This course is for practitioners and researchers engaging in and thinking about mentoring, supervision, and fieldwork in teacher education and counseling as well as in social work and other applied development fields.

657. Advanced Methods in Middle & Secondary Education. Staff.

Formal teaching and learning are on-going processes that require an examination of our practice and purpose through self-reflection, self-evaluation, collegial and student/teacher interaction, and personal and professional growth. This course is the second half of a content-specific secondary methods sequence that is geared toward teaching middle and high school English, math, science and social studies in an urban setting. Special focus will be on content, pedagogical strategies as well as specific skills and Pennsylvania and national standards. We will work together as teacher-researchers to combine theory with practice to increase our understanding and utilization of an inquiry based, multiple perspective, constructivist approach to teaching. Offered within the Teacher Education Program.

665. Research on Teaching. (A)
Remillard.

This course is designed to explore the research literature on classroom teaching processes as well as the contrasting conceptual and methodological approaches upon which this literature is based. The course introduces students to the major substantive areas in the field, develops a critical perspective on contrasting paradigms, and raises questions about the implication of research on teaching for curriculum, instruction, evaluation, and teacher education.

668. Master's Paper Seminar. (B)
Aplenc.

This seminar explores key foundational questions for graduate-level work: How is academic knowledge formed and reproduced? How do we engage with and interrogate the scholarly research? And, how do we participate in the academic conversation around a topic? The Master's Paper Seminar introduces students to academic discourse, disciplinary writing conventions, and research practices. As part of this course, students are guided through preparing a literature review of a topic of their choice. This review, in turn, forms the foundation of their 30-40 page Master's Paper that is required for the completion of the M.S.Ed degree.

SM 678. Gender and Sexuality in Education. (A) Cross E.

This seminar gives an overview of the intersections and interplay among gender, sexuality, and education through theory, practice, current discussions, and analysis of varied contexts in English speaking countries (e.g. the United States, Canada, Great Britain, and Australia). After examining the theoretical foundations of genders and sexualities, we will look at their histories and effects in K-12 schools and colleges and universities as well as explore special topics.

SM 689. Contemporary Issues in Mathematics Curriculum. (B)
Remillard.

Educational leaders and policy makers in the U.S. have long used curriculum reform to drive change in K-12 teaching and schooling practices. This course examines the assumptions underlying this approach and examines the related research evidence.

SM 691. Contemporary Issues in Science and Technology Education Research. (B) Yoon, Susan.

This course focuses on topics that represent some of the most salient and contemporary issues in science education research today. The syllabus moves through four sections that address: 1) Curriculum and Content (What and Why); 2) Learning Processes (How); 3) Contexts (When and Where); 4) Teaching and Teacher Education (Who).

696. In/formal Learning Experience Internship. (E) Kafai.

The In/formal Learning Experiences Internship is a two-semester course that meets throughout the academic year to cover theory, research, and practice of informal learning. The internship is undertaken from October to March each academic year in one of our partnership

institutions and includes about 120 hours field work. The course is designed to provide background readings, a discussion forum of central issues in informal learning, and a place to share and exchange internship experiences. This course will be required for all LST MEd and TLL MEd students as part of the required Internship Program.

698. Politics of School Reform. (A)
Quinn.

We explore the political causes and consequences of school reform in the post-Brown era. Coverage will be eclectic so as to give participants a broad, interdisciplinary background in the field. Rather than the standard categories organizing this scholarship (e.g. by level, decision-making body, or issue area) we'll structure our exploration by considering fundamental conclusions about the politics of reform.

702. Conceptual Models of School Leadership & Organization. (C) Staff.

The goal for the course is to help each of us develop new ways of understanding the schools and organizations in which we work. Using Gareth Morgan's *Images of Organizations* as our primary text, and a set of related readings, we will use metaphor as an interpretive tool. Morgan's premise, and the premise of this course, is that one's ability to act in or on organizations is facilitated by one's capacity to "read" them from different perspectives. Since most of us have spent most of our lives going to and working in schools, the challenge of "seeing" schools from new perspectives is therefore held to be particularly difficult.

719. Research on Teacher Education and Learning to Teach. (B) Rust.

This course focuses on issues of research, practice, and policy related to teacher education at the preservice, induction, and continuing education levels in the United States and internationally. The course is designed as a seminar to engage participants in the study of teacher education through interaction with researchers and policy-makers, through in-depth study of critical issues in the field, and through engagement with teacher education programs. It is anticipated that each course participant will develop a literature review focusing on one or more topics related to critical issues in teacher education.

726. Doctoral Foundations of Teaching and Learning. (C)

Kafai/Remillard/Yoon/Staff.

The course explores theoretical and empirical perspectives on the questions: What is knowledge and knowing? What is learning? What is teaching? How do contexts influence teaching, knowing and learning? A central goal of the course is to encourage students to consider these questions and their interconnections for themselves, to examine ways scholars and practitioners have answered them, and to develop an analytical framework to use in examining contemporary practices in settings that include formal and informal, urban and international.

QMTD-Quantitative Methods**625. Data Processing and Analysis.****(A)** Turner. Prerequisite(s): Educ 667 or equivalent.

Use of Statistical Software including Statistical Analysis (SAS) to effectively build a wide variety of datasets for use to address a range of empirical research questions. Evaluate conventional methods for dealing with missing data and apply contemporary methods using SAS.

667. Introductory Statistics for Educational Research. (C)

Boe.

Scales of measurement; indices of central tendency and variability; product-movement correlation; introduction to the chi-squared; Z, T, and F distributions.

680. Evaluation of Policies, Programs and Projects. (A)**(A)** Boruch. Prerequisite(s): EDUC 667 or equivalent.

Basic evaluation policy and methods for determining nature and severity of problems, implementation of programs relative effects and cost-effectiveness of interventions to reduce problems, design and conduct of evaluation studies in education, social services, crime and delinquency, in the U.S. and other countries.

683. (STAT502) Survey Methods & Design. (B)**(B)** Boruch. Prerequisite(s): Educ 667 or equivalent. Undergraduate statistics or tests and measurement.

This course covers the methods and design of field surveys in the U.S. and other countries in education, the social sciences, criminal justice research, and other areas. It covers methods of eliciting information through household, mail, telephone surveys, methods of assuring privacy, enhancing cooperation rates and related matters. Finally, the fundamentals of

statistical sampling and sample design are handled. Much of the course is based on contemporary surveys sponsored by the National Center for Education Statistics and other federal, state and local agencies.

684. Measurement & Assessment.**(A)** McDermott.

Analysis of primary assessment concepts including basic theoretical principles, types and purposes of assessment devices, levels of measurement, standardization and norming, and methods to support reliability and validity; special focus on appropriate test interpretation, fairness, measurement of change, and incremental validity; application of standards for test development, usage, and critique in education, health care, public policy, and scientific inquiry.

767. Regression and Analysis of Variance. (C)**(C)** Boruch. Prerequisite(s): EDUC 667 or equivalent.

This course covers design of controlled randomized experiments, analysis of survey data and controlled field experiments, including statistical models, regression, hypothesis testing, relevant data analysis and reporting.

768. Measurement Theory and Test Construction. (M)**(M)** McDermott. Prerequisite(s): EDUC 684 or equivalent.

Design of ability, achievement, and performance measures such as those applied for high-stakes decision making in large-scale assessment and for diagnosis and classification of individuals; advanced true-score and item response theory; item formatting, analysis, selection, calibration, linking, and scaling; analysis of reliability for continuous, ordinal, nominal, and composite scales; analysis of differential item functioning; unidimensionality, and local independence; model contrasting, test equating, and scaling for longitudinal assessment; standards and cut-point setting.

771. Factor Analysis and Scale Development. (A)**(A)** McDermott. Prerequisite(s): EDUC 684 or equivalent.

Advanced measurement theory; exploratory and confirmatory item factoring and clustering for self-report, observational, rating, performance, and personality instruments; factoring of dichotomous and ordered categorical data, full-information factoring; scaling procedures, hierarchical structure, full-information bifactor structure, invariance, generality, reliability, validity, interpretation, and scientific reporting.

777. Structural Equations Modeling.**(A)** Rovine/McDermott. Prerequisite(s): Introductory Statistics.

Theory and application of means modeling and longitudinal analysis through structural equations, including observed variable regression with multiple equations simultaneously estimated, confirmatory factor analysis measurement models using multiple observed indicators to define sets of latent variables, and regression relationships among multiple latent variables; advanced applications for repeated measures and multilevel growth modeling in educational and social science research.

829. Policy Research Seminar. (C)**(C)** Boe. Prerequisite(s): EDUC 667 or equivalent.

Study of the roles of scientific inquiry in development and assessment of contemporary educational and social policy. Analysis and application of foundational research, statistical and psychometric methods to inform a variety of policy topics and related issues and problems encountered in policy formation and evaluation.

871. (CRIM871) Randomized Trials and Experiments. (A)**(A)** Boruch.

This course will cover three alternatives to conventional modeling in the social sciences: (1) design and execution of field trials in education and other social sectors including criminology, (2) quasi-experiments especially contemporary research comparing results of randomized and non-randomized trials, and (3) analysis for descriptive and exploratory purposes. The course themes include causal inference, vulnerability of models applied to observational data, recent developments computer-intensive inductive approaches to data, and related matters.

Although some methodological background papers will be discussed, the seminar is case study oriented with readings from contemporary research on the topics from peer reviewed journals and well-vetted reports issued by governmental and nongovernment agencies. Cases will include work supported by IES on effects of Odyssey Math, for example, and work in the crime and justice arena. We will study the work of scholars affiliated with Penn who are actively involved in randomized and non-randomized trials, for instance, and the work of colleagues at other universities (Berkeley, Northwestern, Wisconsin, Princeton, others) and colleagues in non-profit and for profit research organizations such as Analytica,

AIR, Mathematica and others that contribute to learning in this arena.

Colleagues who have contributed notably to contemporary trials and related topics, and whose work we study, will be invited to present guest lectures. Seminar participants are required to read relevant papers prior to the presentations. The course is open to graduate students who have had basic statistics courses at the graduate level, and have a strong interest in evidence based policy and in studies that transcend discipline boundaries.

880. Complex, Multilevel, and Longitudinal Research Models. (A)

McDermott. EDUC 767 or equivalent.

Design construction, sampling, internal and external validity principles; univariate and multivariate statistical treatment of experimental and quasi-experimental data; computer processing, interpretation, and reporting for simple and complex factorial, repeated measures, time series, growth trajectory, unbalanced, and multiple consistent and inconsistent covariates designs; error covariance structure modeling, hierarchical linear (and nonlinear) modeling, and multilevel individual growth-curve modeling.

881. Applied Multivariate Statistics. (B)

McDermott. Prerequisite(s): EDUC 767 or equivalent and permission of instructor.

Multivariate strategies for hypothesis testing, prediction, and classification including multiple regression, multivariate multiple regression, canonical regression, multiple logistic regression, multiple discriminant functions, factor analysis of scaled variables, hierarchical cluster analysis, and multivariate classification analysis; computer processing, interpretation, and reporting.

RWL-Reading, Writing & Literacy

525. Fieldwork in Language in Education. (C)

Waff. Supervised fieldwork for individuals preparing to work with reading specialist/teachers in school settings.

533. Forming and Reforming the Elementary Reading/Writing/Literacy Curriculum. (A)

Campano. Students explore the theory and practice of constructivist approaches to teaching reading/writing/talking across the curriculum. They read widely and discuss issues that are informed by theory and research in many fields of inquiry including children's and adolescent literature, educational linguistics, cognitive

psychology, curriculum, and anthropology and assessment. They write and share integrative journals; develop, teach and reflect upon holistic lessons; and complete an individual or group project of their own choosing.

535. Literature for Children and Adolescents. (C)

Thomas. Theoretical and practical aspects of the study of literature for children and adolescents. Students develop both wide familiarity with children's/adolescents' books and understanding of how literature can be used in elementary/middle/secondary school curricula. Students complete course projects that focus on literature in specific classroom, research, home, or professional contexts.

549. (FOLK552) Writing and Culture. (L)

Camitta. In this class we will look at writing as an expressive and instrumental part of culture and society. We see writing as cultural artifact and cultural behavior, shaped by and shaping the context of its use. This approach to writing is the foundation for the new literacy studies, which understands writing as several variable, multiple, diverse and changing practices contingent upon specific cultural and social contexts. Readings for the course are drawn primarily from the New Literacy Studies, but also from philosophy, anthropology, folklore, literary theory, literature and linguistics. We will consider ways these approaches to understanding and describing writing can inform classroom practice.

578. Teaching Reading and Study in Colleges and Universities. (L)

Cohen, M. This course is designed for both pre-service and experienced instructors and administrators who are interested in teaching and/or researching the concept of academic literacies and the array of academic skills in postsecondary settings, and/or directing programs in reading, writing and study strategies at the postsecondary level. The course presents theoretical frameworks relevant to the teaching of study strategies, theories of cognitive development, and practical instructional methods. Emphasis is placed on the process and content of such instruction, materials and methods for teaching, and ways to organize postsecondary literacy programs.

SM 582. Theories and Pedagogies of Teaching Writing. (A)

Stornaiuolo. This seminar examines various theories and pedagogies of teaching writing in multilingual, multimodal contexts. It explores the historical and ideological underpinnings of contemporary theories of writing and attends to how writing, and the teaching of writing, is shifting in a mobile, networked, and global age.

SM 588. Digital Literacies in a Networked World. (B)

Stornaiuolo, A. This graduate seminar is designed to explore how literacy and learning are changing as people participate with digital technologies across intersecting local and global networks. Participants will collaboratively investigate how young people's digital literacies-their culturally and socially situated meaning making practices mediated by digital tools-emerge in relation to constantly shifting technologies of communication and are constructed, reconstructed, negotiated, and embodied in multiple semiotic systems across everyday contexts. This course highlights how digital literacies are situated, and how these socio-cultural understandings illuminate issues of power and privilege.

626. The Discourses of Teaching Reading. (B)

Staff. This course draws on varying pedagogical and personal perspectives to explore conceptions of reading comprehension and how it can be taught to children and adolescents. Focus will be given to how certain ways of structuring dialogue about a text profoundly change how readers think about and do reading.

629. Teaching English/Language and Literacy in Middle and Secondary Schools. (A)

Stornaiuolo. This course is a collaborative inquiry into the dynamic concept of adolescent literacy and its potential as an organizing construct for improving teaching and learning. It provides opportunities to investigate a variety of resources including our own histories as well as a range of print, digital and visual texts and to conduct fieldwork in various middle and secondary school classrooms where youth are being positioned (and positioning themselves) as literacy learners and literacy is being defined, performed, practiced, interrogated, and interpreted, within and beyond the school curricula. By engaging with youth, in various texts and contexts and for a range of purposes, participants will try to make sense of how adolescents negotiate their worlds, in school and out. The

approach to literacy is interdisciplinary, drawing from the domains of literature, composition, linguistics, curriculum theory, anthropology and psychology and from theory, research and practice of both university-based and school-based teachers, writers and researchers. The intent is to pose and refine questions about what it means to teach literacy in ways that take seriously what youth bring to school as their own knowledge and passions, cultural and linguistic resources.

633. Selected Topics in Reading/Writing. (M) Staff.

Examines a topic of current interest to theory, research, and practice in writing.

635. Assessing Language and Learning Differences. (B)

Gadsden/Campano. Prerequisite(s): EDUC 533. Auditors not permitted.

This course exposes students to a wide variety of assessments used to look closely at growth in reading/writing/literacy. Students critique both formal and informal approaches to assessment as well as complete structured observations of learners within diverse instructional contents. Emphases include contextual and affective components of reading/language difficulties, innovative assessment procedures, observational strategies and collaborative inquiry.

SM 645. Issues in Education and Health: Disparities and Prevention in Schools and Communities. (B)

Gadsden.

Drawing upon research and scholarship in health and education, this course aims to deepen our knowledge, understanding, and ability to effect positive change in the health and health practices of students and families in urban settings, using schools and community agencies as sites of engagement.

662. Picturebooks and the Practice of Literacy. (B) Thomas.

This course examines the formal properties of picturebooks and their use in enabling literacy development. The course uses aesthetic theory, theories of text-picture relationships, theories of literacy and theories of literary understanding, and also exposes students to empirical research on children's responses to this literary form.

666. Young Adult Literature, Media & Culture. (B) Thomas.

This course acquaints students with the ever-expanding body of literature written for young adults, considering the theoretical and pedagogical issues it raises.

Readings include many young adult novels; empirical research on adolescent response to literature; and literary theory.

669. Seminar in Practitioner Inquiry. (B) Campano and Hartley.

This course is designed as a collaborative investigation into practitioner inquiry and the work of inquiry communities in K-16 and graduate/professional school settings, professional networks and community-based organizations. The focus is on conceptual and methodological frameworks and methods of practitioner inquiry and the contexts, purposes and practices of differently situated inquiry communities. Participants will explore a range of practitioner inquiry traditions and texts that go by terms such as action, collaborative, critical, community-based, participatory, autobiographical, emancipatory, narrative and pedagogical. They will also conduct an inquiry based on their particular interests and contexts. The course will emphasize practitioner inquiry that intentionally engages issues of equity, access and culture in educational settings.

671. Adult Literacy. (A) Staff.

Teaching reading/writing/literacy to adults for whom English is a first or second language. Topics include contrasting conceptions of literacy and learning; participatory literacy programs; instruction and curriculum for adults with diverse cultural and linguistic backgrounds and nationalities; alternative/performance-based assessment; and practitioner research in adult literacy education.

681. Literacy and Illustrated Texts: Picturebooks, Comics and Graphic Novels. (M) Thomas.

Students develop familiarity with illustrated materials - including picturebooks, comics, and graphic novels - while cultivating understanding of how illustrated texts like these can be used in 21st century elementary/middle/secondary literacy curricula. Students complete individualized and group course projects that focus on illustrated texts in specific classroom, research, critical, theoretical, home, community, and/or professional contexts.

SM 713. Responding to Literature: An Interdisciplinary Perspective. (A) Thomas.

This course deals with the ways in which readers respond to and transact with literary texts, and aims at helping students understand the nature of the variety of ways in which literature interfaces with our lives. Three different types of discourse are read:

literary criticism; empirical research on response to literature; and literary texts themselves. Various types of literary criticism are considered, including (but certainly not limited to) what is commonly called "reader response criticism"; text-based criticism; and criticism that contextualizes literature socially and historically. The empirical research on response deals with ways in which readers of various ages interact with literature, mostly in school settings; some attention is given to instructional design and critique of methodology. The literary texts range from picturebooks to literature for young adults.

723. (AFRC723) Multicultural Issues in Education. (A) Gadsden.

This course examines critical issues, problems, and perspectives in multicultural education. Intended to focus on access to literacy and educational opportunity, the course will engage class members in discussions around a variety of topics in educational practice, research, and policy. Specifically, the course will (1) review theoretical frameworks in multicultural education, (2) analyze the issues of race, racism, and culture in historical and contemporary perspective, and (3) identify obstacles to participation in the educational process by diverse cultural and ethnic groups. Students will be required to complete field experiences and classroom activities that enable them to reflect on their own belief systems, practices, and educational experiences.

724. Literacy: Social and Historical Perspectives. (M) Staff.

A review of the cross-cultural and historical literature on writing and reading with emphasis on the identification of norms and practices which affect the teaching and learning of reading and literacy today. Special attention to the social functions of literacy in work, home, and school settings and to myths regarding the consequences of literacy for cognition, socio-economic mobility, and predictability, and the predictability of citizen behaviors.

735. Tutorial Work in Reading/Writing/Literacy. (B) Gross. Prerequisite(s): Permission needed from instructor.

Tutorial in Reading Writing and Literacy, is designed for participants to gain knowledge and insight into the major challenges facing learners in their quest for proficiency in literacy. The course participants investigate and develop instructional plans for the literacy needs of learners in pre-K to 12th grade settings. Course participants will investigate the

roles and responsibilities of the literacy specialist as related to identifying the needs of learners and planning appropriate instruction to meet those needs.

737. Research in Teaching Writing.

(M) Stornaiuolo, A.

This doctoral seminar explores theories and research on writing, investigating current and traditional areas of inquiry in the field of writing studies. As class participants review and analyze theoretical and empirical literature on writing and teaching writing, the seminar will offer students opportunities to compose texts and reflect on their roles as writers in the academy through collaborative inquiry. Participants will think together about the purposes, functions, and consequences of writing in diverse communities and across school and out-of-school settings. The course will pay particular attention to how writing is shifting in a mobile, networked, global age, and how multimodality, interactivity, and hybridity characterize our composing lives.

834. Theories of Reading. (M)

Campano.

This course is designed as a collaborative inquiry toward constructing and elaborating theories of practice as teachers and/or researchers of reading. Using a seminar or working group format, participants explore the relationships among theory, reading, practice, pedagogy and research. The

course's conceptualization is informed primarily by (1) frameworks from critical, feminist and culturally-centered literatures which foreground issues of equity, representation, and ethics; and (2) current conversations in the field of literacy where the definitions, purposes, and practices of reading have been made problematic. It also invites participants to engage the notion that knowledge for teaching and research comes from inquiry into the questions, issues, and contradictions that arise from everyday life. The course provides historical lenses for comparative analyses of theoretical frameworks and research paradigms as well as opportunities to investigate participants' individual histories as well as teaching and research interests.

SM 835. Seminar in Reading and Writing. (M) Staff.

Participants in the course examine landmark studies in the field of reading, writing, and literacy; explore different approaches to composing critical reviews of the literature for academic journals, dissertations and other research projects; and select, search, and review the theoretical and empirical literature related to a topic of their own interest in the domains of reading, writing and literacy.

836. Issues in Instructional Leadership in Reading and Writing. (B) Waff.

Participants will consider current critical issues in Reading, Writing, and Literacy, such as: improving accountability and assessment; approaches to professional development and curriculum development; and the use of scientifically "valid" research to advance literacy learning.

917. Research Seminar: Language and Power. (M) Street.

The course examines the relationship between language, meaning and power in their social context. The course is organized around a number of core themes; Language studies rooted in Critical Discourse analysis; The application of Bourdieu's concepts to this field; multi modality; the growing concern with 'Superdiversity' that links Local/ Global; academic literacies, with particular reference to the writing required in students' own contexts; and methodological issues in researching language and power; and we then bring all of this to bear on our own context under the heading 'language in education'.

SM 920. Research Seminar in Reading and Writing. (B) Campano.

For doctoral candidates and others engaged in research and advanced professional study in the field of literacy.

ELECTRICAL & SYSTEMS ENGINEERING (EG) {ESE}

099. Undergraduate Research and/or Independent Study. (C) A maximum of 2 c.u. of ESE 099 may be applied toward the B.A.S. or B.S.E. degree requirements.

An opportunity for the student to become closely associated with a professor in (1) a research effort to develop research skills and technique and/or (2) to develop a program of independent in-depth study in a subject area in which the professor and student have a common interest. The challenge of the task undertaken must be consistent with the student's academic level. To register for this course, the student and professor jointly submit a detailed proposal to the undergraduate curriculum chairman no later than the end of the first week of the term.

111. Atoms, Bits, Circuits and Systems. (A) FOR FRESHMEN ONLY.

Introduction to the principles underlying electrical and systems engineering. Concepts used in designing circuits, processing signals on analog and digital devices, implementing computation in embedded systems, analyzing communication networks, and understanding complex systems will be discussed in lectures and illustrated in the laboratory. This course provides an overview of the challenges and tools that Electrical Engineers and Systems Engineers address and some of the necessary foundations for students interested in more advanced courses in ESE.

150. Digital Audio Basics. (B) FOR FRESHMEN ONLY.

Primer on digital audio. Overview of signal processing, sampling, compression, human psychoacoustics, MP3, intellectual property, hardware and software platform components, and networking (i.e., the basic technical underpinnings of modern MP3 players and cell phones).

190. Silicon Garage: Introduction to Open Source Hardware and Software Platforms. (C) Prerequisite(s): High School Physics and Math.

Project-centric learning course for non-ESE majors on microprocessor control of physical systems using open-source hardware and software platforms. Students will work in teams to develop software controlled systems based on the Arduino and Raspberry-Pi that interface with the

real world (sensors, actuators, motors) and each other (networking).

L/R 204. Decision Models. (A)

Prerequisite(s): MATH 104.

This first course in decision models will introduce students to quantitative models for decision making, using optimization and monte-carlo simulation. Examples will be drawn from manufacturing, finance, logistics and supply chain management. Students will use EXCEL and @Risk to build and analyze models.

210. Introduction to Dynamic Systems. (A) Corequisite(s): MATH 240.

This first course in systems modelling covers linear and nonlinear systems in both continuous and discrete time. Topics covered include linearization and stability analysis, elementary bifurcations, and an introduction to chaotic dynamics. Extensive applications to mechanical, electrical, biological, social, and economic/financial systems are included. The course will use both analytical and numerical/symbolic tools.

L/L 215. Electrical Circuits and Systems I. (A) Prerequisite(s): PHYS 150/151. Corequisite(s): MATH 240.

This course gives an introduction of modern electric and electronic circuits and systems. Designing, building and experimenting with electrical and electronic circuits are challenging and fun. It starts with basic electric circuit analysis techniques of linear circuits. Today mathematical analysis is used to gain insight that supports design; and more detailed and accurate representations of circuit performance are obtained using computer simulation. It continues with 1st order and 2nd order circuits in both the time and frequency domains. It discusses the frequency behavior of circuits and the use of transfer functions. It continues with introduction of non-linear elements such as diodes and MOSFET (MOS) transistors. Applications include analog and digital circuits, such as single stage amplifiers and simple logic gates. A weekly lab accompanies the course where concepts discussed in class will be illustrated by hands-on projects; students will be exposed to state-of-the-art test equipment and software tools (LabView, Spice).

L/L 218. Electronic, Photonic, and Electromechanical Devices. (A)

Prerequisite(s): PHYS 150/151. Corequisite(s): MATH 240.

This first course in electronic, photonic and electromechanical devices introduces students to the design, physics and

operation of physical devices found in today's applications. The course describes semiconductor electronic and optoelectronic devices, including light-emitting diodes, photodetectors, photovoltaics, transistors and memory; optical and electromagnetic devices, such as waveguides, fibers, transmission lines, antennas, gratings, and imaging devices; and electromechanical actuators, sensors, transducers, machines and systems.

L/L 224. Signal and Information Processing. (B) Prerequisite(s): MATH 104. Corequisite(s): MATH 240.

Introduction to signal and information processing (SIP). In SIP we discern patterns in data and extract the patterns from noise. Foundations of deterministic SIP in the form of frequency domain analysis, sampling, and linear filtering. Random signals and the modifications of deterministic tools that are necessary to deal with them. Multidimensional SIP where the goal is to analyze signals that are indexed by more than one parameter. Includes a hands-on lab component that implements SIP as standalone applications on modern mobile platforms.

290. Introduction to Electrical and Systems Engineering Research Methodology. (B) Prerequisite(s): MATH 240, PHYS 150, ESE 215 and ESE 218, or ESE 204 and 210, or ESE 215 and CIS 240. Corequisite(s): ESE 291.

Introduction to the nature and process of engineering research as represented by ongoing ESE faculty (and collaborating colleagues' and industrial partners') research projects. Joint class exercises in how to pursue effective background technical reading, pitch a proposal, and aim for the discovery of new human knowledge to complement the individually mentored topic specific project work.

291. Introduction to Electrical and Systems Engineering Research and Design. (C) Corequisite(s): ESE 290.

Students contract with a faculty mentor to conduct scaffolded original research in a topic of mutual interest. Prepare project report on research findings.

292. INTR TO ELECTROMECH PROT. (C)

296. Study Abroad.

301. Engineering Probability. (B) Prerequisite(s): MATH 114.

This course introduces students to the mathematical foundations of the theory of probability and its rich applications. The

course begins with an exploration of combinatorial probabilities in the classical setting of games of chance, proceeds to the development of an axiomatic, fully mathematical theory of probability, and concludes with the discovery of the remarkable limit laws and the eminence grise of the classical theory, the central limit theorem. The topics covered include: discrete and continuous probability spaces, distributions, mass functions, densities; conditional probability; independence; the Bernoulli schema: the binomial, Poisson, and waiting time distributions; uniform, exponential, normal, and related densities; expectation, variance, moments; conditional expectation; generating functions, characteristic functions; inequalities, tail bounds, and limit laws. But a bald listing of topics does not do justice to the subject: the material is presented in its lush and glorious historical context, the mathematical theory buttressed and made vivid by rich and beautiful applications drawn from the world around us.

The student will see surprises in election-day counting of ballots, a historical wager the sun will rise tomorrow, the folly of gambling, the sad news about lethal genes, the curiously persistent illusion of the hot hand in sports, the unreasonable efficacy of polls and its implications to medical testing, and a host of other beguiling settings.

302. Engineering Applications of Statistics. (C) Prerequisite(s): ESE 301 or equivalent course in Probability.

Principles and engineering applications of statistical inference. The basic topics covered are parameter estimation, confidence intervals, and hypothesis testing. Additional topics may include analysis of variance (ANOVA) and/or linear regression. Each method is treated both from theoretical and applied viewpoints, including software analysis of selected data sets.

303. Stochastic Systems Analysis and Simulation. (A) Prerequisite(s): ESE 301 or equivalent and one computer language.

Stochastic systems analysis and simulation (ESE 303) is a class that explores stochastic systems which we could loosely define as anything random that changes in time. Stochastic systems are at the core of a number of disciplines in engineering, for example communication systems and machine learning. They also find application elsewhere, including social systems, markets, molecular biology and epidemiology. The goal of the class is to

learn how to model, analyze and simulate stochastic systems. With respect to analysis we distinguish between what we could call theoretical and experimental analysis. By theoretical analysis we refer to a set of tools which let us discover and understand properties of the system. These analysis can only take us so far and is usually complemented with numerical analysis of experimental outcomes. Although we use the word experiment more often than not we simulate the stochastic system in a computer and analyze the outcomes of these virtual experiments.

The class's material is divided in four blocks respectively dealing with Markov chains, continuous time Markov chains, Gaussian processes and stationary processes. Emphasis is placed in the development of toolboxes to analyze these different classes of processes and on describing their applications to complex stochastic systems in different disciplines. Particular examples include: (i) the problem of ranking web pages by a search engine; (ii) the study of reputation and trust in social networks; (iii) modeling and analysis of communication networks; (iv) the use of queues in the modeling of transportation networks; (v) stochastic modeling and simulation of biochemical reactions and gene networks; (vi) arbitrages, pricing of stocks, and pricing of options through Black-Scholes formula; and (vii) linear filtering of stochastic processes to separate signals of interest from background noise. For more information visit the class's web page at <http://alliance.seas.upenn.edu/~ese303/wiki/>.

304. Optimization of Systems. (B) Corequisite(s): MATH 240.

Model Building and Linear Programming: Graphical Methods and The Simplex Method, the LINDO and LINGO Computer Packages, Degeneracies, Minimization and the BigM and the Two-Phase Methods, and Goal Programming. Sensitivity Analysis: Geometric and Algebraic Approaches, The Computer and Sensitivity Analysis, The Dual of An LP Problem, The Dual Theorem, Shadow Prices, Complementary Slackness, The Dual Simplex Method, and The Revised Simplex Method. Integer Programming: The Branch and Bound Method, Enumeration Methods, and the Cutting Plane Method. Nonlinear Programming: Review of Differential Calculus, Convex and Concave Functions, Solving NLP Problems with One Variable, Unconstrained Nonlinear Optimization with Several Variables, Lagrange Multipliers and Constraint Nonlinear Optimization

with Several Variables, The Kuhn-Tucker Conditions and Quadratic Programming.

310. Electric and Magnetic Fields I. (B) Prerequisite(s): PHYS 151 and MATH 114.

This course examines concepts of electromagnetism, vector analysis, electrostatic fields, Coulomb's Law, Gauss's Law, magnetostatic fields, Biot-Savart Law, Ampere's Law, electromagnetic induction, Faraday's Law, transformers, Maxwell equations and time-varying fields, wave equations, wave propagation, dipole antenna, polarization, energy flow, and applications.

L/L 319. Fundamentals of Solid-State Circuits. (B) Prerequisite(s): ESE 215.

Analysis and design of basic active circuits involving semiconductor devices including diodes and bipolar transistors. Single stage, differential, multi-stage, and operational amplifiers will be discussed including their high frequency response. Wave shaping circuits, filters, feedback, stability, and power amplifiers will also be covered. A weekly three-hour laboratory will illustrate concepts and circuits discussed in the class.

321. Physics and Models of Semiconductor Devices. (A)

Prerequisite(s): ESE 218 or by permission of the instructor.

Semiconductor materials form the basis of modern electronic technology. This course develops the physics of semiconductor devices, the evolution of modern semiconductor technology, device engineering considerations, and introduces emerging technologies. The course stresses intuitive understanding of the physics through interactive exercises, instructional videos, in-class examples and a research project. Topics covered include an introduction to quantum mechanics and band theory of solids; physics governing charge carriers in semiconductors; fundamental operating mechanisms for p-n junctions, bipolar and field-effect transistors, and optoelectronic devices; and an introduction to nanoscale devices and the limits of transistor scaling.

325. Fourier Analysis and Applications in Engineering, Mathematics, and the Sciences. (A) Prerequisite(s): Math 240, Junior or Senior Standing.

This course focuses on the mathematics behind Fourier theory and a wide variety of its applications in diverse problems in mathematics, engineering, and the sciences. The course is very mathematical in content and students signing up for it should have

junior or senior standing. The topics covered are chosen from: functions and signals; systems of differential equations; superposition, memory, and non-linearity; resonance, eigenfunctions; the Fourier series and transform, spectra; convergence theorems; inner product spaces; mean-square approximation; interpolation and prediction, sampling; random processes, stationarity; wavelets, Brownian motion; stability and control, Laplace transforms.

The applications of the mathematical theory that will be presented vary from year to year but a representative sample include: polynomial approximation, Weierstrass's theorem; efficient computation via Monte Carlo; linear and non-linear oscillators; the isoperimetric problem; the heat equation, underwater communication; the wave equation, tides; testing for randomness, fraud; nowhere differentiable continuous functions; does Brownian motion exist?; error-correction; phase conjugate optics and four-wave mixing; cryptography and secure communications; how fast can we compute?; X-ray crystallography; cosmology; and what the diffusion equation has to say about mathematical finance and arbitrage opportunities.

L/L 350. Embedded Systems/Microcontroller Laboratory.

(B) Prerequisite(s): Knowledge of C programming or permission of the instructor.

An introduction to interfacing real-world sensors and actuators to embedded microprocessor systems. Concepts needed for building electronic systems for real-time operation and user interaction, such as digital input/outputs, interrupt service routines, serial communications, and analog-to-digital conversion will be covered. The course will conclude with a final project where student-designed projects are featured in presentations and demonstrations.

370. Circuit-Level Modeling, Design, and Optimization for Digital Systems. (A) Prerequisite(s): ESE 150, ESE 215.

Circuit-level design and modeling of gates, storage, and interconnect. Emphasis on understanding physical aspects which drive energy, delay, area, and noise in digital circuits. Impact of physical effects on design and achievable performance.

400. (ESE 540) Engineering Economics. (C) Prerequisite(s): Knowledge of Differential Calculus.

This course investigates methods of economic analysis for decision making among alternative courses of action in

engineering applications. Topics include: cost-driven design economics, break-even analysis, money-time relationships, rates of return, cost estimation, depreciation and taxes, foreign exchange rates, life cycle analysis, benefit-cost ratios, risk analysis, capital financing and allocation, and financial statement analysis. Case studies apply these topics to actual engineering problems.

407. (ESE 507) Introduction to Networks and Protocols. (C)

Prerequisite(s): ESE 301 or equivalent. Course open to Seniors in SEAS and Wharton.

This is an introductory course on packet networks and associated protocols, with a particular emphasis on IP-based networks such as the Internet. The course introduces design and implementation choices that underlie the development of modern networks, and emphasizes basic analytical understanding of the concepts. Topics are covered in a mostly "bottom-up" approach starting with a brief review of physical layer issues such as digital transmission, error correction and error recovery strategies. This is followed by a discussion of link layer aspects, including multiple access strategies, local area networks (Ethernet and 802.11 wireless LANs), and general store-and-forward packet switching. Network layer solutions, including IP addressing, naming, and routing are covered next, before exploring transport layer and congestion control protocols (UDP and TCP). Finally, basic approaches for quality-of-service and network security are examined. Specific applications and aspects of data compression and streaming may also be covered.

411. Electromagnetic Waves and Applications. (M) Prerequisite(s): ESE 310 or permission of instructor.

Key concepts of electromagnetic and optical fields and waves, and their implications in modern communication systems. Selected topics from areas such as plane waves in lossy media, reflection and refraction, transmission lines, optical fibers, microwave and photonic waveguides, and antennas and sensors and their applications in communication systems are discussed.

419. (ESE 572) Analog Integrated Circuits. (A) Prerequisite(s): ESE 319 or permission of the instructor.

Design of analog circuits and subsystems using primarily MOS technologies at the transistor and higher levels. Transistor level design of building block circuits such as op amps, comparators, sample and hold

circuits, voltage and current references, capacitors and resistor and class AB output stages. The Cadence Design System will be used to capture schematics and run simulations using Spectre for some homework problems and for the course project. Topics of stability, noise, device matching through good layout practice will also be covered. Students who take ESE419 will not be able to take ESE572 later. More will be expected of ESE572 students in the design project.

420. (ESE 520) Agent-Based Modeling and Simulation. (A)

Agents are a new technique for trying to model, simulate, and understand systems that are ill-structured and whose mathematics is initially unknown and possibly unknowable. This approach allows the analyst to assemble models of agents and components where micro-decision rules may be understood; to bring the agents and components together as a system where macro-behavior then emerges; and to use that to empirically probe and improve understanding of the whole, the interrelations of the components, and synergies. This approach helps one explore parametrics, causality, and what-ifs about socio-technical systems (technologies that must support people, groups, crowds, organizations, and societies). It is applicable when trying to model and understand human behavior - consumers, investors, passengers, plant operators, patients, voters, political leaders, terrorists, and so on. This course will allow students to investigate and compare increasingly complex agent based paradigms along three lines - math foundations, heuristic algorithms/knowledge representations, and empirical science. The student will gain a toolbox and methodology for attempting to represent and study complex socio-technical systems.

444. (ESE 544) Project Management. (D) Prerequisite(s): ESE 304 or equivalent.

The course emphasizes a systems engineering approach to project management including the cycle costing and analysis, project scheduling, project organization and control, contract management, project monitoring and negotiations. In addition, the course will also examine management issues in large infrastructure projects like non-recourse or limited recourse project financing. Examples from the logistics planning process and global software project management will be used to highlight the course topics.

450. Senior Design Project I - EE and SSE. (A) Prerequisite(s): Senior Standing or permission of the instructor.

This is the first of a two-semester sequence in electrical and systems engineering senior design. Student work will focus on project/team definition, systems analysis, identification alternative design strategies and determination (experimental or by simulation) or specifications necessary for a detailed design. Project definition is focused on defining a product prototype that provides specific value to a least one identified user group. Students will receive guidance on preparing professional written and oral presentations. Each project team will submit a project proposal and two written project reports that include coherent technical presentations, block diagrams and other illustrations appropriate to the project. Each student will deliver two formal Powerpoint presentations to an audience comprised of peers, instructors and project advisors. During the semester there will be periodic individual-team project reviews.

451. Senior Design Project II - EE and SSE. (B) Prerequisite(s): ESE 450.

This is the second of a two term sequence in electrical and systems engineering senior design. Student work will focus on completing the product prototype design undertaken in ESE 450 and successfully implementing the said product prototype. Success will be verified using experimental and/or simulation methods appropriate to the project that test the degree to which the project objectives are achieved. Each project team will prepare a poster to support a final project presentation and demonstration to peers, faculty and external judges. The course will conclude with the submission of a final project written team report. During the semester there will be periodic project reviews with individual teams.

L/L 460. (ESE 574, MEAM564) Principles of Microfabrication Technology. (A) Prerequisite(s): Any of the following: ESE 218, MEAM 333, CBE 351, CHEM 321/322, PHYS 250 or permission of the instructor.

A laboratory-based course on fabricating microelectronic and micromechanical devices using photolithographic processing and related fabrication technologies. Lectures discuss: clean room procedures; microelectronic and microstructural materials; photolithography; diffusion, oxidation; materials deposition; etching and plasma processes. Basic laboratory processes are covered for the first two thirds of the course with students completing structures appropriate to their

major in the final third. Students registering for ESE 574 will be expected to do extra work (including term paper and additional project).

500. Linear Systems Theory. (A) Prerequisite(s): Open to graduates and undergraduates who have taken undergraduate courses in linear algebra and differential equations.

This graduate-level course focuses on continuous and discrete n-dimensional linear systems with m inputs and p outputs in a time domain based on linear operators. The course covers general discussions of linear systems such as, linearization of non-linear systems, existence and uniqueness of state-equation solutions, transition matrices and their properties, methods for computing functions of matrices and transition matrices and state-variable changes. It also includes z-transform and Laplace transform methods for time-invariant systems and Floquet decomposition methods for periodic systems. The course then moves to stability analysis, including: uniform stability, uniform exponential stability, asymptotic stability, uniform asymptotic stability, Lyapunov transformations, Lyapunov stability criteria, eigenvalues conditions and input-output stability analysis. Applications involving the topics of controllability, observability, realizability, minimal realization, controller and observer forms, linear feedback, and state feedback stabilization are included, as time permits.

501. Networking - Theory and Fundamentals. (B) Prerequisite(s): ESE 530 or equivalent.

Networks constitute an important component of modern technology and society. Networks have traditionally dominated communication technology in form of communication networks, distribution of energy in form of power grid networks, and have more recently emerged as a tool for social connectivity in form of social networks. In this course, we will study mathematical techniques that are key to the design and analysis of different kinds of networks. First, we will investigate techniques for modeling evolution of networks. Specifically, we will consider random graphs (all or none connectivity, size of components, diameters under random connectivity), small world problem, network formation and the role of topology in the evolution of networks. Next, we will investigate different kinds of stochastic processes that model the flow of information in networks. Specifically, we will develop the theory of markov processes, renewal processes, and basic

queueing, diffusion models, epidemics and rumor spreading in networks.

502. Introduction to Spatial Analysis. (B) Prerequisite(s): ESE 302 or equivalent.

The course is designed to introduce students to modern statistical methods for analyzing spatial data. These methods include nearest-neighbor analyses of spatial point patterns, variogram and kriging analyses of continuous spatial data, and autoregression analyses of area data. The underlying statistical theory of each method is developed and illustrated in terms of selected GIS applications. Students are also given some experience with ARCMAP, JMPIN, and MATLAB software.

504. (OIDD910) Introduction to Optimization Theory. (A)

Prerequisite(s): ESE 304 and EAS 205 or MATH 313.

The course provides a detailed introduction to linear and nonlinear optimization analysis as well as integer optimization analysis. It discusses methods for the mathematical formulation of linear programming (LP) integer programming (IP) and nonlinear programming (NLP) problems, as well as methods of computational tools used for their solutions. In discussions surrounding the solutions to LP problems, the Simplex method and the Revised Simplex methods are covered in a fairly rigorous fashion along with the LINDO computational computer package. Sensitivity analysis associated with the optimal solutions to LP problems is also discussed in detail using both geometric and algebraic methods. In discussions surrounding the solutions to IP problems, the course covers: (a) branch and bound, (b) enumeration and (c) cutting-plane methods, and these are applied to numerous classic problems in IP. In discussions surrounding the solutions to NLP problems, the course covers methods involving: (a) differential Calculus, (b) steepest ascent and decent and (c) Lagrange Multipliers. The Kuhn-Tucker Conditions are also presented and applied to problems in Quadratic Programming. Many examples are selected from a broad range of engineering and business problems.

L/L 505. (MEAM513) Control of Systems. (B) Prerequisite(s): ESE 224 or equivalent, ESE 210 recommended.

Basic methods for analysis and design of feedback control in systems. Applications to practical systems. Methods presented include time response analysis, frequency response analysis, root locus, Nyquist and Bode plots, and the state-space approach.

507. (ESE 407) Introduction to Networks and Protocols. (C) Course open to Graduate Students in SEAS and Wharton.

This is an introductory course on packet networks and associated protocols, with a particular emphasis on IP-based networks such as the Internet. The course introduces design and implementation choices that underlie the development of modern networks, and emphasizes basic analytical understanding of the concepts. Topics are covered in a mostly "bottom-up" approach starting with a brief review of physical layer issues such as digital transmission, error correction and error recovery strategies. This is followed by a discussion of link layer aspects, including multiple access strategies, local area networks (Ethernet and 802.11 wireless LANs), and general store-and-forward packet switching. Network layer solutions, including IP addressing, naming, and routing are covered next, before exploring transport layer and congestion control protocols (UDP and TCP). Finally, basic approaches for quality-of-service and network security are examined. Specific applications and aspects of data compression and streaming may also be covered.

509. Waves, Fibers and Antennas for Telecommunications. (A)

This course is designed to provide an understanding of the physical aspects of telecommunications systems. This includes an understanding of waves and wave propagation, basic optics, the operation of optical fibers and fiber communication systems, an introduction to optical networks, free-space optical communications, and an understanding of simple antennas and arrays and their use in wireless communication.

510. Electromagnetic and Optical Theory. (A)

This course reviews electrostatics, magnetostatics, electric and magnetic materials, induction, Maxwell's equations, potentials and boundary-value problems. Topics selected from the areas of wave propagation, wave guidance, antennas, and diffraction will be explored with the goal of equipping students to read current research literature in electromagnetics, microwaves, and optics.

511. Modern Optics and Image Understanding. (B) Prerequisite(s): ESE 310, graduate standing, or permission of the instructor.

The goal of this course is to provide a unified approach to modern optics, image

formation, analysis, and understanding that form the theoretical basis for advanced imaging systems in use today in science, medicine and technology. The emphasis is on imaging systems that employ electromagnetic energy but the principles covered can be extended to systems employing other forms of radiant energy such as acoustical.

512. Dynamical Systems for Engineering and Biological Applications. (A) Prerequisite(s): MATH 240, PHYS 150, ESE 210 and a sound background in computational modeling.

This midlevel course in nonlinear dynamics focuses on the analysis of low dimensional, continuous time models for describing and understanding complex behavior in physical, biological and engineered systems. We assume some background knowledge of ordinary differential equations, and develop at an engineering applications level the concepts and tools of qualitative dynamical systems theory with major focus on analysis and some on synthesis.

514. (MSE 570) Physics of Materials I. (A) Prerequisite(s): Undergraduate Physics and Math through modern physics and differential equations.

Failures of classical physics and the historical basis for quantum theory. Postulates of wave mechanics; uncertainty principle, wave packets and wave-particle duality. Schrodinger equation and operators; eigenvalue problems in 1 and 3 dimensions (barriers, wells, hydrogen atom). Mathematical equivalence to problems in optics. Perturbation theory; scattering of particles and light. Free electron theory of metals; Drude and Sommerfeld models, dispersion relations and optical properties of solids. Extensive use of computer-aided self-study will be made.

515. (MSE 571) Physics of Materials - II. (B) Prerequisite(s): MSE 570/ESE 514 or equivalent.

Failures of free electron theory. Crystals and the reciprocal lattice; wave propagation in periodic media; Bloch's theorem. One-electron band structure models: nearly free electrons, tight binding. Semiclassical dynamics and transport. Cohesive energy, lattice dynamics and phonons. Dielectric properties of insulators. Homogeneous semiconductors and p-n junctions. Experimental probes of solid state phenomena: photo emission, energy loss spectroscopy, neutron scattering. As time permits, special topics selected from the following: correlation effects, semiconductor alloys and heterostructures,

amorphous semiconductors, electroactive polymers.

517. (BE 517) Optical Imaging. (A) Prerequisite(s): ESE 310 and 325 or equivalent.

A modern introduction to the physical principles of optical imaging with biomedical applications. Propagation and interference of electromagnetic waves. Geometrical optics and the eikonal. Plane-wave expansions, diffraction and the Rayleigh criterion. Scattering theory and the Born approximation. Introduction to inverse problems. Multiple scattering and radiative transport. Diffusion approximation and physical optics of diffusing waves. Imaging in turbid media. Introduction to coherence theory and coherence imaging. Applications will be chosen from the recent literature in biomedical optics.

518. Battery and Super-Capacitor Systems. (C) Prerequisite(s): CHEM 101 (General Chemistry) and MATH 104 (Calculus 1).

This is a senior / graduate course on scientific and technological fundamentals as they apply to electrochemical batteries and super-capacitors. The perspective utilized will be a combination of materials and systems science. The course will introduce the student to the different categories of electrochemical cells and batteries, and their related chemistry, kinds of super-capacitors, charging and discharging profiles, equivalent series resistance (ESR), power capacities, and lifetimes. For super-capacitors, the student will be introduced to double layer capacitance (DLC) and pseudo-capacitance types of energy storage, super-capacitor fundamentals through Faradaic and non-Faradaic processes, pseudo-capacitance of metal oxides and electro-active polymers (EAPs), non-ideal polarizable electrodes, energetics and kinetics of electrode processes, theories of dielectric polarization, inorganic and organic electro carbonaceous materials, effective surface area (ESA) and functionalizations, as well as the AC impedance behavior of batteries and super-capacitors including the self-discharge characteristics of both. The fundamental electrochemical relations will be discussed, as well as battery / super-caps system modeling, and batteries management systems.

519. (IPD 519) Real-Time Embedded Systems. (C) Prerequisite(s): CIS 120 , ESE 350 or equivalent, one course in computer networks and Senior or Graduate standing.

The use of distributed wireless sensor networks has surged in popularity in recent years with applications ranging from environmental monitoring, to people- and object-tracking in both cooperative and hostile environments. This course is targeted at understanding and obtaining hands-on experience with the state-of-the-art in such wireless sensor networks which are often composed using relatively inexpensive sensor nodes that have low power consumption, low processing power and bandwidth. The course will span a variety of topics ranging from radio communications, network stack, systems infrastructure including QoS support and energy management, programming paradigms, distributed algorithms and example applications. Some guest lectures may be given.

520. (ESE 420) Agent-Based Modeling and Simulation. (A)

Agents are a new technique for trying to model, simulate, and understand systems that are ill-structured and whose mathematics is initially unknown and possibly unknowable. This approach allows the analyst to assemble models of agents and components where micro-decision rules may be understood; to bring the agents and components together as a system where macro-behavior then emerges; and to use that to empirically probe and improve understanding of the whole, the interrelations of the components, and synergies. This approach helps one explore parametrics, causality, and what-ifs about socio-technical systems (technologies that must support people, groups, crowds, organizations, and societies). It is applicable when trying to model and understand human behavior - consumers, investors, passengers, plant operators, patients, voters, political leaders, terrorists, and so on. This course will allow students to investigate and compare increasingly complex agent based paradigms along three lines - math foundations, heuristic algorithms/knowledge representations, and empirical science. The student will gain a toolbox and methodology for attempting to represent and study complex socio-technical systems. Students taking this for graduate credit will also learn how to design agent-based tools.

521. The Physics of Solid State Energy Devices. (B) Prerequisite(s): ESE 218 or PHYS 240 or equivalent, or by permission of the instructor.

An advanced undergraduate course or graduate level course on the fundamental physical principles underlying the operation of traditional semiconducting electronic and optoelectronic devices and extends these concepts to novel nanoscale electronic and optoelectronic devices. The course assumes an undergraduate level understanding of semiconductors physics, as found in ESE 218 or PHYS 240. The course builds on the physics of solid state semiconductor devices to develop the operation and application of semiconductors and their devices in energy conversion devices such as solar photovoltaics, thermophotovoltaics, and thermoelectrics, to supply energy. The course also considers the importance of the design of modern semiconductor transistor technology to operate at low-power in CMOS.

522. (OIDD656) Process Management in Manufacturing. (C) Prerequisite(s): OPIM 621, OPIM 631, and OPIM 632 or equivalent.

This course builds on OPIM 631 and OPIM 632 in developing the foundations of process management, with applications to manufacturing and supply chain coordination and integration. This course begins with a treatment of the foundations of process management, including quality (e.g. 6-sigma systems) and time (e.g., cycle time) as building blocks for the successful integration of plant operations with vertical and horizontal market structures. On the e-manufacturing side, the course considers recent advances in enterprise-wide planning (ERP) systems, supplier management and contract manufacturing. Industry case studies highlight contrasting approaches to the integration of manufacturing operations and risk management with e-Logistics and e-Procurement providers and exchanges. The course is recommended for those interested in consulting or operations careers, and those wishing to understand the role of manufacturing as a general foundation for economics value creation.

523. Quantum Engineering. (B) Prerequisite(s): One semester of quantum mechanics, e.g. PHYS 411, MSE 570, CHEM 523, or by permission of the instructor.

Quantum engineering - the design, fabrication, and control of quantum coherent devices - has emerged as a multidisciplinary field spanning physics, electrical engineering, materials science,

chemistry, and biology, with the potential for transformational advances in computation, secure communication, and nanoscale sensing. This course surveys the state of the art in quantum hardware, beginning with an overview of the physical implementation requirements for a quantum computer and proceeding to a synopsis of the leading contenders for quantum building blocks, including spins in semiconductors, superconducting circuits, photons, and atoms. The course combines background material on the fundamental physics and engineering principles required to build and control these devices with readings drawn from the current literature, including promising architectures for scaling physical qubits into larger devices and secure communication networks, and for nanoscale sensing applications impacting biology, chemistry, and materials science.

525. (MSE 525) Nanoscale Science and Engineering. (A) Prerequisite(s): ESE 218 or PHYS 240 or MSE 220 or equivalent, or by permission.

Overview of existing device and manufacturing technologies in microelectronics, optoelectronics, magnetic storage, Microsystems, and biotechnology. Overview of near- and long-term challenges facing those fields. Near- and long-term prospects of nanoscience and related technologies for the evolutionary sustention of current approaches, and for the development of revolutionary designs and applications.

526. Photovoltaic Systems Engineering. (B) Prerequisite(s): Permission of the Instructor.

This course will present the engineering basis for photovoltaic (PV) system design. The overall aim is for engineering students to understand the what, why, and how associated with the electrical, mechanical, economic, and aesthetic aspects of PV system. The course will introduce additional practical design considerations, added to the theoretical background, associated with pertinent electro-mechanical design.

527. Design of Smart Systems. (B) Prerequisite(s): Junior or Senior standing, course or experience in a course with high level language.

Smart systems are materials, structures, devices and/or networks that seek to autonomously emulate human capabilities (sensing, nervous system, deliberating, acting) for adapting and continued functioning in potentially adverse conditions. Smart systems are a highly

trans-disciplinary field that utilize microsystems technology with other disciplines like biology, information science, nanoscience, or cognitive science to control networks of components. Smart systems are causing a sea-change in hybrid cyber-physical-social systems leading to such breakthroughs as: the internet of Everything, smart cars, smart cities, the next industrial revolution, solutions to reduce global warming, and personalized e-healthcare, among many others. In this course students explore state-of-the-art smart system components, learn a design methodology to integrate the components, and apply the methodology to design and simulate a smart system prototype. The course will also cover life-long coping skills for human-centered design and for modeling the security, privacy and reliability hazards of the smart systems approach.

528. Estimation and Detection Theory. (C) Prerequisite(s): ESE 530 or STAT 530 or equivalent.

Statistical decision making constitutes the core of multiple engineering systems like communication, networking, signal processing, control, market dynamics, biological systems, data processing, etc. We strive to introduce mathematical theories that formulate statistical decision and obtain decision making algorithms with application to one or more of the above domains. This course will be offered every other year.

529. (MEAM529) Introduction to Micro- and Nano-electromechanical Technologies. (B)

Introduction to MEMS and NEMS technologies: MEMS/NEMS applications and key commercial success stories (accelerometers, gyroscopes, digital light projectors, resonators). Review of micromachining techniques and MEMS/NEMS fabrication approaches. Actuation methods in MEMS and NEMS, MEMS/NEMS design and modeling. Examples of MEMS/NEMS components from industry and academia. Case studies: MEMS inertial sensors, microscale mirrors, micro and nano resonators, micro and nano switches, MEMS/NEMS chem/bio sensors, MEMS gyroscopes, MEMS microphones.

530. Elements of Probability Theory.

(A) Prerequisite(s): A solid foundation in undergraduate probability at the level of ESE 301 or STAT 430 at Penn. Students are expected to have a sound calculus background in the first two years of a typical undergraduate engineering curriculum. Undergraduates are warned that the course is very mathematical in nature with an emphasis on rigor; upperclassmen who wish to take the course will need to see the instructor for permission to register.

This rapidly moving course provides a rigorous development of fundamental ideas in probability theory and random processes. The course is suitable for students seeking a rigorous graduate level exposure to probabilistic ideas and principles with applications in diverse settings.

The topics covered are drawn from: abstract probability spaces; combinatorial probabilities; conditional probability; Bayes's rule and the theorem of total probability; independence; connections with the theory of numbers, Borel's normal law; rare events, Poisson laws, and the Lovasz local lemma; arithmetic and lattice distributions arising from the Bernoulli scheme; limit laws and characterizations of the binomial and Poisson distributions; continuous distributions in one and more dimensions; the uniform, exponential, normal, and related distributions; random variables, distribution functions; orthogonal and stationary random processes; the Gaussian process, Brownian motion; random number generation and statistical tests of randomness; mathematical expectation and the Lebesgue theory; expectations of functions, moments, convolutions; operator methods and distributional convergence, the central limit theorem, selection principles; conditional expectation; tail inequalities, concentration convergence in probability and almost surely, the law of large numbers, the law of the iterated logarithm; Poisson approximation, Janson's inequality, the Stein- Chen method; moment generating functions, renewal theory; characteristic functions.

531. Digital Signal Processing. (A)

Prerequisite(s): ESE 224/325 or equivalent.

This course covers the fundamentals of discrete-time signals and systems and digital filters. Specific topics covered include: review of discrete-time signal and linear system representations in the time and frequency domain, and convolution; discrete-time Fourier transform (DTFT); Z-transforms; frequency response of linear discrete-time systems; sampling of continuous-time signals, analog to digital

conversion, sampling-rate conversion; basic discrete-time filter structures and types; finite impulse response (FIR) and infinite impulse response (IIR) filters; design of FIR and IIR filters; discrete Fourier transform (DFT), the fast Fourier transform (FFT) algorithm and its applications in filtering and spectrum estimation.

534. Computer Organization. (M)

Prerequisite(s): Basic computability and basic digital circuits, VLSI exposure helpful but not required. CIS 371 adequate.

Organization and design of physical computational systems, basic building block for computations, understanding and exploiting structure in computational problems, design space, costs, and tradeoffs in computer organization, common machine abstractions, and implementation/optimization techniques. The course will develop fundamental issues and tradeoffs which define computer organizational and architectural styles including RISC, VLIW, Super Scalar, EPIC, SIMD, Vector, MIMD, reconfigurable FPGA, PIM, and SoC. Basic topics in the design of computational units, instruction organization, memory systems, control and data flow, and interconnect will also be covered.

535. Electronic Design Automation.

(M) Prerequisite(s): Digital logic, Programming (need to be comfortable writing ~1-3K lines of code and working with a large, existing base code).

Formulation, automation, and analysis of design mapping problems with emphasis on VLSI and computational realizations. Major themes include: formulating and abstracting problems, figures of merit (e.g. Energy, Delay, Throughput, Area, Mapping Time), representation, traditional decomposition of flow (logic optimization, covering, scheduling, retiming, assignment, partitioning, placement, routing), and techniques for solving problems (e.g., greedy, dynamic programming, search, (integer) linear programming, graph algorithms, randomization, satisfiability).

540. (ESE 400) Engineering Economics. (C)

This course is cross-listed with an advanced-level undergraduate course (ESE 400). Topics include: money-time relationships, discrete and continuous compounding, equivalence of cash flows, internal and external rate of return, design and production economics, life cycle cost analysis, depreciation, after-tax cash flow analysis, cost of capital, capital financing and allocation, parametric cost estimating models, pricing, foreign exchange rates,

stochastic risk analysis, replacement analysis, benefit-cost analysis, and analysis of financial statements. Case studies apply these topics to engineering systems. Students are not required to do additional work compared to ESE 400 students. The work-load is identical.

544. (ESE 444) Project Management. (C) Prerequisite(s): ESE 304 or equivalent.

The course emphasizes a systems engineering approach to project management including the cycle costing and analysis, project scheduling, project organization and control, contract management, project monitoring and negotiations. In addition, the course will also examine management issues in large infrastructure projects like non-recourse or limited recourse project financing. Examples from the logistics planning process and global software project management will be used to highlight the course topics.

548. (CPLN650) Transportation Planning Methods. (C) Prerequisite(s): CPLN 505 or another planning statistics course.

This course introduces students to the development and uses of the 4-step urban transportation model (trip generation-trip distribution-mode choice-traffic assignment) for community and metropolitan mobility planning. Using the VISUM transportation desktop planning package, students will learn how to build and test their own models, apply them to real projects, and critique the results.

566. (BE 566) Networked Neuroscience. (C) Prerequisite(s): Graduate standing or permission of the instructor. Experience with Linear Algebra and MATLAB.

The human brain produces complex functions using a range of system components over varying temporal and spatial scales. These components are coupled together by heterogeneous interactions, forming an intricate information-processing network. In this course, we will cover the use of network science in understanding such large-scale and neuronal-level brain circuitry.

567. (OIDD261) Risk Analysis and Environmental Management. (B)

This course is designed to introduce students to the complexities of making decisions about threats to human health and the environment when people's perceptions of risks and their decision-making processes differ from expert views. Recognizing the limitations of individuals

in processing information the course explores the role of techniques such as decision analysis, cost-benefit analysis, risk assessment and risk perception in structuring risk-management decisions. We will also examine policy tools such as risk communication, incentive systems, third party inspection, insurance and regulation in different problem contexts.

The problem contexts for studying the interactions between analysis, perceptions, and communication will include risk-induced stigmatization of products (e.g. alar, British beef), places (e.g. Love Canal), and technologies (e.g. nuclear power); the siting of noxious facilities, radon, managing catastrophic risks including those from terrorism. A course project will enable students to apply the concepts discussed in the course to a concrete problem.

568. Mixed Signal Design and Modeling. (C) Prerequisite(s): ESE 319, 419 or permission of the instructor.

This course will introduce design and analysis of mixed-signal integrated circuits. Topics include: Sampling and quantization, Sampling circuits, Switched capacitor circuits and filters, Comparators, Offset compensation, DACs/ADCs (flash, delta-sigma, pipeline, SAR), Oversampling, INL/DNL, FOM. The course will end with a final design project using analysis and design techniques learned in the course. Students must provide a written report with explanations to their design choices either with equations or simulation analysis/insight along with performance results.

570. Digital Integrated Circuits and VLSI-Fundamentals. (B)

Prerequisite(s): ESE 319 (for undergraduates) or permission of the instructor.

Explores the design aspects involved in the realization of an integrated circuit from device up to the register/subsystem level. It addresses major design methodologies with emphasis placed on the structured design. The course includes the study of MOS device characteristics, the critical interconnect and gate characteristics which determine the performance of VLSI circuits, and NMOS and CMOS logic design. Students will use state-of-the-art CAD tools to verify designs and develop efficient circuit layouts.

571. MXD SIGNAL DESGN & MODEL.

572. (ESE 419) Analog Integrated Circuits. (A) Prerequisite(s): ESE 319 (for undergraduates) or permission of the instructor.

Design of analog circuits and subsystems using bipolar and MOS technologies at the transistor and higher levels. Transistor level design of building block circuits such as op amps, comparators, sample and hold circuits, voltage and current references, capacitors and resistor arrays, and class AB output stages. The course will include a design project of an analog circuit. The course will use the Cadence Design System for schematic capture and simulation with Spectre circuit simulator. This course is similar to ESE 570, except that it will not require the use of the physical layout tools associated with VLSI design and implementation.

L/L 574. (ESE 460, MEAM564) The Principles and Practice of Microfabrication Technology. (A)

Prerequisite(s): Any of the following courses: ESE 218, MSE 321, MEAM 333, CBE 351, CHEM 321/322, PHYS 250 or permission of the instructor.

A laboratory-based course on fabricating microelectronic and micromechanical devices using photolithographic processing and related fabrication technologies. Lectures discuss: clean room procedures; microelectronic and microstructural materials; photolithography; diffusion, oxidation; materials deposition; etching and plasma processes. Basic laboratory processes are covered for the first two thirds of the course with students completing structures appropriate to their major in the final third. Students registering for ESE 574 will be expected to do extra work (including term paper and additional project).

575. Introduction to Wireless Systems. (M) Prerequisite(s): ESE 507, Basic knowledge of wireless networks, protocols, and operating system concepts.

Wireless sensor networks (WSN) consist of many individual nodes that operate collaboratively to monitor, sense, and control their environments. While such networks share aspects common to other types of wireless networks, such as wireless mobile ad hoc networks, battery, processing, and communication constraints of sensor nodes pose several new challenges in routing, localization, addressing, and optimization of these networks. This course will introduce the characteristics of these networks by covering recent research trends from a range of disciplines - e.g. hardware design, operating systems, information and signal

processing, and communication networks. The course will briefly touch on design and programming (OS, software) of sensor networks. The main focus will be on applications of wireless sensor networks and distributed networking/communication issues in such networks.

576. Digital Communication

Systems. (B) Prerequisite(s): Undergraduate linear systems, probability, random processes.

Sampling, source coding, and channel capacity. Quantization and coding of speech and video. Baseband data transmission: bandwidth, intersymbol interference, adaptive equalization, performance analysis. Digital modulation schemes, spectral efficiency, and performance. Error control coding; block and convolutional codes.

578. RFIC (Radio Frequency Integrated Circuit) Design. (B)

Prerequisite(s): ESE 572.

Introduction to RF (Radio Frequency) and Microwave Theory, Components, and Systems. The course aims at providing knowledge in RF transceiver design at both microwave and millimeter-wave frequencies. Both system and circuit level perspective will be addressed, supported by modeling and simulation using professional tools (including Agilent ADS, Sonnet, and Cadence Design Systems). Topics include: Transmission Line Theory, S-parameters, Smith Chart for matching network design, stability, noise, and mixed signal design. RF devices covered will include: hybrid/Wilkinson/Lange 3dB couplers, Small Signal Amplifiers (SSA), Low Noise Amps (LNA), and Power Amps (PA). CMOS technology will be largely used to design the devices mentioned.

590. Systems Methodology. (B)

This course covers the methodologies and techniques important to designing large complex, purposeful systems and to discovering policies that influence them throughout the stages of their lifecycle. The course focuses on hands-on synthetic thinking, where students assemble the big picture from modeling the individual actors, organizations, and artifacts in a socio-technical system of interest. This is the study of emergence of macro-behavior from the micro-decision making of the actors involved - to inquire into the design of a purposeful system, and to examine alternative futures that are ideal, yet affordable, sustainable, and workable. Specifically, the student learns systems theory, systems methodologies (design inquiry/learning systems, idealized

design/interactive planning, and soft systems methodology/knowledge management), bottom up modeling (decision science, multi-attribute utility theory, affective reasoning, agent based modeling, simulated societies), and how to further research and apply the synthetic paradigm.

597. Master's Thesis. (C)

599. Independent Study for Master's credit. (C)

601. Hybrid Systems. (M)

Prerequisite(s): ESE 500.

Hybrid systems combine discrete state-machines and continuous differential equations, and have been used as models of a large number of applications in areas such as real-time software, embedded systems, robotics, mechatronics, aeronautics, process control, and biological systems. The course will cover state-of-the-art modeling, design, and analysis of hybrid systems. The course is interdisciplinary, and is aimed at bringing together concepts in control theory and computer science. Specific topics include modeling, simulation, stability, reachability, and controller design for hybrid systems. Computational tools for the simulation and verification of hybrid systems will be emphasized with applications to robotics, avionics, air traffic management systems, and biological systems. The course consists of lectures, homeworks, and a final project.

603. Simulation Modeling and

Analysis. (B) Prerequisite(s): Probability (undergraduate level) and one computer language.

This course provides a study of discrete-event systems simulation. Some areas of application include: queuing systems, inventory systems, reliability systems Markov Chains, Random-Walks and Monte-Carlo systems. The course examines many of the discrete and continuous probability distributions used in simulation studies as well as the Poisson process. Long-run measurements of performances of queuing systems, steady-state behavior of infinite and finite-population queuing systems and network of queues are also examined. Fundamental to most simulation studies is the ability to generate reliable random numbers. The course investigates the basic properties of random numbers and techniques used for the generation of pseudo-random numbers. In addition, the course examines techniques used to test pseudo-random numbers for uniformity and independence. These include the Kolmogorov-Smirnov and chi-squared tests, runs tests, gap tests, and

poker tests. Random numbers are used to generate random samples and the course examines the inverse-transform, convolution, composition and acceptance/rejection methods for the generation of random samples for many different types of probability distributions.

Finally, since most inputs to simulation are probabilistic instead of deterministic in nature, the course examines some techniques used for identifying the probabilistic nature of input data. These include identifying distributional families with sample data, then using maximum-likelihood methods for parameter estimating within a given family and then testing the final choice of distribution using chi-squared goodness-of-fit tests.

605. Modern Convex Optimization.

(B) Prerequisite(s): Knowledge of linear algebra and willingness to do programming. Exposure to numerical computing, optimization, and application fields is helpful but not required.

This course concentrates on recognizing and solving convex optimization problems that arise in engineering. Topics include: convex sets, functions, and optimization problems. Basis of convex analysis. Linear, quadratic, geometric, and semidefinite programming. Optimality conditions, duality theory, theorems of alternative, and applications. Interior-point methods, ellipsoid algorithm and barrier methods, self-concordance. Applications to signal processing, control, digital and analog circuit design, computation geometry, statistics, and mechanical engineering.

608. Intelligent and Animated

Software Agents. (M) Prerequisite(s): Undergraduate courses in probability (ESE 301 or equivalent), optimization (ESE 304 or equivalent), knowledge of one computer programming language (Fortran, Pascal, or C), or permission of the instructor.

This course will begin with an introduction to virtual reality personas and web-based agents, including their usage to assist, train, and entertain people wherever digital interfaces exist (on the Web, in e-commerce, in games, in kitchen appliances, on your dashboard, etc.). What makes an agent rational? Emotionally appealing? Entertaining? We will explore mathematical theories of rationality and behavior, including those from cognitive, behavioral and decision science. We will then progress into human behavior, literature, personality and individual differences studies, and intelligent and emotive agent designs. We will examine various types of agents such as web

shopping agents, emotive agents, personal support agents, chatterbots, mobile agents, virtual reality personas, game-based adversaries, pedagogical agent coaches, and multi-agent societies. Finally, students will learn principles about animation, simulated social interaction and speech generation, knowledge representation, agent planning and reasoning, agent communication languages, testing of the use of agent based systems, and methodologies/toolbenches for engineering of systems of intelligent and emotive agents.

610. Electromagnetic and Optical Theory II. (M)

This course covers exact, approximate and numerical methods of wave propagation, radiation, diffraction and scattering with an emphasis on bringing students to a point of contributing to the current research literature. Topics are chosen from a list including analytical and numerical techniques, waves in complex media and metamaterials, photonic bandgap structures, imaging, miniaturized antennas, high-impedance ground plans, and fractal electrodynamics.

617. (CBE 617, CIS 613, MEAM613) Non-Linear Control Theory. (M)

Prerequisite(s): ESE 500 or equivalent.

The course studies issues in nonlinear control theory, with a particular emphasis on the use of geometric principles. Topics include: controllability, accessibility, and observability, for nonlinear systems; Forbenius' theorem; feedback and input/output linearization for SISO and MIMO systems; dynamic extension; zero dynamics; output tracking and regulation; model matching disturbance decoupling; examples will be taken from mechanical systems, robotic systems, including those involving nonholonomic constraints, and active control of vibrations.

632. Random Processes and Optimum Filtering. (M) Prerequisite(s): ESE 530 or Permission of the Instructor.

Convergence, continuity, stationarity and second order properties of random processes. Spectral representation. Markov processes, Wiener and Poisson processes. Karhunen-Loeve expansion. Optimum filtering: matched and Wiener filtering, finite observations, spectral factorization. Kalman filtering. Basic concepts of parameter estimation and hypothesis testing.

635. Distributed Systems. (M)

Prerequisite(s): Basic knowledge of linear systems (ESE 500), linear algebra (MATH 312 or equivalent), and optimization (ESE 504 or equivalent) and some familiarity with basics of nonlinear systems (ESE 617 or equivalent). Students without this background should consult with the instructor before registering.

This research seminar deals with tools, methods, and algorithms for analysis and design of distributed dynamical systems. These are large collections of dynamical systems that are spatially interconnected to form a collective task or achieve a global behavior using local interactions. Over the past decade such systems have been studied in disciplines as diverse as statistical physics, computer graphics, robotics, and control theory. The purpose of this course is to build a mathematical foundation for study of such systems by exploring the interplay of control theory, distributed optimization, dynamical systems, graph theory, and algebraic topology. Assignments will consist of reading and researching the recent literature in this area. Topics covered in distributed coordination and consensus algorithms over networks, coverage problems, effects of delay in large scale networks. Power law graphs, gossip and consensus algorithms, synchronization phenomena in natural and engineered systems, etc.

650. Learning in Robotics. (A)

Prerequisite(s): Students will need permission from the instructor. They will be expected to have a good mathematical background with knowledge of machine learning techniques at the level of CIS 520, signal processing techniques at the level of ESE 531, as well as have some robotics experience.

This course will cover the mathematical fundamentals and applications of machine learning algorithms to mobile robotics. Possible topics that will be discussed include probabilistic generative models for sensory feature learning. Bayesian filtering for localization and mapping, dimensionality reduction techniques for motor control, and reinforcement learning of behaviors. Students are expected to have a solid mathematical background in machine learning and signal processing, and will be expected to implement algorithms on a mobile robot platform for their course projects. Grading will be based upon course project assignments as well as class participation.

674. Information Theory. (M)

Prerequisite(s): ESE 530 or equivalent exposure to probability theory.

Deterministic and probabilistic information. The pigeon-hole principle. Entropy, relative entropy, and mutual information. Random processes and entropy rate. The asymptotic equipartition property. Optimal codes and data compression. Channel capacity. Source channel coding. The ubiquitous nature of the theory will be illustrated with a selection of applications drawn from among: universal source coding, vector quantization, network communication, the stock market, hypothesis testing, algorithmic computation and kolmogorov complexity, and thermodynamics.

675. Optimal Design of Wireless Systems. (C)

In the context of this class wireless systems are defined as groups of wireless devices that collaborate to deliver information from generating sources to intended destinations. Wireless networks come in many varieties finding applicability in as many different settings. They can use different methods to access the shared wireless medium, they may or may not rely in a fixed infrastructure, and they can operate over different time scales. Despite these differences, a few recurrent characteristics and problems appear. Students in this class are exposed to different wireless networking modalities and led to understand commonalities and differences. Particular emphasis is in the roles of fading and variations in channel strength and interference detrimental effect of concurrent communications as the defining characteristics of wireless networks. The use of optimization tools to determine optimal operating points and the use of statistical analysis to deal with the inherent uncertainty introduced by fading are thoroughly discussed.

The outcome of the class is a comprehensive exposure to the current state of the art on optimal design of wireless networks. The class is structured in blocks. An introductory section is followed by a formal discussion of wireless networking architectures. A third block discusses challenges presented by the inherent randomness present in wireless networks. The fourth part of the class the theory to use in the discussion of algorithms and protocols for wireless networks.

895. Teaching Practicum. (C)

Participation of graduate students in the teaching mission of the department will help to develop teaching, presentation, leadership, and interpersonal skills while assisting the department in discharging its

teaching responsibilities. All doctoral students are required to participate under faculty guidance in the teaching mission of the department. This requirement will be satisfied by completing two 0.5 course units of teaching practicum (ESE 895). Each 0.5 course unit of teaching practicum will consist of the equivalent of 10 hours of effort per week for one semester. As a part of the preparation for and fulfillment of the teaching practicum requirement, the student will attend seminars emphasizing teaching and communication skills, lead recitations, lead tutorials, supervise laboratory experiments, develop instructional materials and grade homeworks, laboratory reports, and exams. A teacher training seminar will be conducted the day before the first day of classes of the Fall semester. Attendance is mandatory for all second-year students.

As much as possible, the grading aspect of the teaching practicum course will be such as not to exceed 50% of the usual teaching assistant commitment time. Some of the recitations will be supervised and feedback and comments will be provided to the student by the faculty member responsible for the course. At the completion of every 0.5 course unit of teaching, the student will receive a Satisfactory/Unsatisfactory grade and a written evaluation signed by the faculty member responsible for the course. The evaluation will be based on comments of the students taking the course and the impressions of the faculty.

899. Independent Study for PhD credit. (C)

For students who are studying a specific advanced subject area in electrical engineering. Students must submit a proposal outlining and detailing the study

area, along with the faculty supervisor's consent, to the graduate group chair for approval. A maximum of 1 c.u. of ESE 899 may be applied toward the MSE degree requirements. A maximum of 2 c.u.'s of ESE 899 may be applied toward the Ph.D. degree requirements.

995. Dissertation. (C)

Register for this after completing four years of full-time study including two course units each Summer Session (and usually equal to 40 course units).

999. Thesis/Dissertation Research. (C)

For students working on an advanced research program leading to the completion of master's thesis or Ph.D. dissertation requirements.

**ENERGY MANAGEMENT
AND POLICY
(FA) {ENMG}**

**SM 503. (CPLN535) Topics in Energy
Policy. (B)**

This research seminar focuses on changing energy policy topics that provide students with a deep examination of an aspect of energy technology, markets, or regulation

and an opportunity for research on an emerging issue related to the topic. The seminar meets weekly to discuss the relevant literature and workshop student research projects.

ENGINEERING AND APPLIED SCIENCE (EG) {EAS}

102. Product Engineering Basics. (C)

The course targets non-engineering majors interested in understanding engineering approaches to product fabrication. The course covers a broad variety of engineering topics including mechanical, electrical, computer and material science. Many of these topics would normally be full courses in themselves. This course intends to teach familiarity with a focus on hands-on practice as applied to products. Students will briefly use equipment such as MTS materials testing machines, mills, lathes, oscilloscopes, laser cutters, photodiodes, motors, servos, microcomputers as well as engineering software such as Solidworks, C compilers, Labview, Matlab, and Cambridge Engineering Selector. The class concludes with independent projects.

125. (CIS 125) Technology and Policy. (C)

Have you ever wondered why sharing music and video generates such political and legal controversies? Is information on your PC safe and should law enforcement be able to access information you enter on the Web? Will new devices allow tracking of your every move and every purchase? CIS 125 is focused on developing an understanding of existing and emerging technologies, along with the political, societal and economic impacts of those technologies. The technologies are spread across a number of engineering areas and each of them raise issues that are of current concern or are likely to be a future issue.

203. Engineering Ethics. (C)

The practice of engineering requires more than creativity, diligence, and technical knowledge: it demands the tools to manage the conflicting needs of clients, managers, and the public; an ability to act responsibly when problems arise; and, above all, strong communication skills. This course will examine the major ethical issues associated with engineering practice while enhancing students' technical writing. Through the study of important case studies like the Great Molasses Flood, the Space Shuttle Challenger disaster, and the Deepwater Horizon oil spill, we will learn about the responsibilities of engineering professionals, as well as the causes and consequences of technological failure.

205. Applications of Scientific Computing. (C) Prerequisite(s): Prior exposure to computing via courses such as EAS 105, CIS 110, or ESE 112. Math 114, Sophomore standing.

This course will discuss a number of canonical problems and show how numerical methods are used to solve them. Lectures will introduce the underlying theory and the relevant numerical methods. Students will be expected to implement solutions to the problems using MATLAB. The course will use the visualization capabilities of MATLAB to provide students with a geometric interpretation of the key ideas underlying the numerical methods. Topics to be covered will include: The solution of systems of linear systems equations with application to problems such as force balance analysis and global illumination computation. Representing and computing coordinate transformations with applications to problems in graphics, vision and robotics. Transform Coding with applications to the analysis of audio signals and image compression. Analysis of variance and the search for low dimensional representations for high dimensional data sets egs. Google's PageRank algorithm. Least Squares model fitting with applications to data analysis. Analysis of linear dynamical systems with applications to understanding the modes of vibration of mechanical systems. The analysis of stochastic systems governed by state transition matrices.

210. Introduction to Nanotechnology. (A)

301. (EAS 505) Climate Policy and Technology. (C)

The course will exam Pacala and Socolow's hypothesis that "Humanity already possesses the fundamental scientific, technical and industrial know-how to solve the carbon and climate problem for the next half-century." Fifteen "climate stabilization wedges" i.e., strategies that each have the potential to reduce carbon emissions by 1 billion tons per year by 2054, will be examined in detail. Technology and economics will be reviewed. Socio-political barriers to mass-scale implementation will be discussed. Pacala and Socolow note "Every element in this portfolio has passed beyond the laboratory bench and demonstration project; many are already implemented somewhere at full industrial scale".

L/R 303. (BE 303) Ethics, Social, and Professional Responsibility for Engineers. (A)

Provides an overview of the ethical, social, and professional responsibilities of engineers, as engineering professionals, as members of engineering organizations and as investigators in research. The course will make extensive use of student group presentations and in the analysis of cases based on real-world problems with ethical dimensions, many drawn from current news. The case studies will vary from year to year, but will be chosen to be relevant to students interested in different careers in engineering, including research.

306. (EAS 506) Electricity and Systems Markets. (C)

The course discusses the existing electricity system from technical, economic, and policy perspectives. Basic power system engineering will be reviewed early in the course. Generation, transmission, distribution, and end-use technologies and economics will be discussed. Additional topics will include system operation, industry organization, government regulation, the evolution of power markets, environmental policy, and emerging technologies.

400. (EAS 500) Technical Communication in Engineering Practice. (C) Prerequisite(s): SEAS undergraduates must have already fulfilled their SEAS Writing Requirement.

Students will learn methods and approaches for written technical communication within the engineering environment. These include strategies for maximum effectiveness in writing technical documentation, reports, instructions, and proposals. Assignments will include self-editing and peer editing techniques, as well as strategies to effectively mentor other writers.

401. (EAS 501) Energy and Its Impacts: Technology, Environment, Economics, Sustainability. (A) Any University student interested in energy and its impacts, who is a Junior or Senior. Students taking the course as EAS 501 will be given assignments commensurate with graduate standing.

The objective is to introduce students to one of the most dominating and compelling areas of human existence and endeavor: energy, with its foundations in technology, from a quantitative sustainability viewpoint with its association to economics and impacts on environment and society. This introduction is intended both for general education and awareness and for

preparation for careers related to this field, with emphasis on explaining the technological foundation. The course spans from basic principles to applications. A review of energy consumption, use, and resources; environmental impacts, sustainability and design of sustainable energy systems; introductory aspects of energy economics and carbon trading; methods of energy analysis; forecasting; energy storage; electricity generation and distribution systems (steam and gas turbine based power plants, fuel cells), fossil fuel energy (gas, oil, coal) including nonconventional types (shale gas and oil, oil sands, coalbed and tight-sand gas), nuclear energy wastes: brief introduction to renewable energy use: brief introduction to solar, wind, hydroelectric, geothermal, biomass; energy for buildings, energy for transportation (cars, aircraft, and ships); prospects for future energy systems: fusion power, power generation in space.

Students interested in specializing in one or two energy topics can do so by choosing them as their course project assignments.

402. (EAS 502) Renewable Energy and Its Impacts: Technology, Environment, Economics, Sustainability. (B) Prerequisite(s): Junior Standing.

The objective is to introduce students to the major aspects of renewable energy, with its foundations in technology, association to economics, and impacts on ecology and society. This introduction is intended both for general education and awareness and for preparation for careers related to this field. The course spans from basic principles to applications. A review of solar, wind, biomass, hydroelectric, geothermal energy, and prospects for future energy systems such as renewable power generation in space.

403. (EAS 503) Energy Systems and Policy. (C)

This is a survey course that will examine the current U.S. energy industry, from production to consumption, and its impacts on local, regional, and the global environment. The course will seek to provide a fuller understanding of existing energy systems, ranging from technical overviews of each, a review of industry organization, and an exploration of the well-established policy framework each operates within. Near-term demands upon each energy supply system will be discussed, with particular focus on environmental constraints. Policy options facing each energy industry will be reviewed.

449. (IPD 549) Product Development in Entrepreneurial Ventures. (B)

A product is any artifact, service or experience for which a buyer is willing to pay. Product Design & Development is at the core of entrepreneurship. Though in modern mythology it is a solitary effort by a passionate individual, entrepreneurship is frequently more successful when pursued in an interdisciplinary environment. Though it rarely requires the greatest time investment, concentration of personnel, the majority of the funding or even the greatest depth of expertise to accomplish, excellent product design can be the difference between a successful and failed venture. A poorly designed "product" can prevent a venture from being successful. An excellently designed product can make a competent business plan much more successful. A well defined and designed product solution will create differentiation, and can not only meet customer expectation but can create desirability. Through the review and discussion of case studies, lecture subjects, guest lecturers, field trips, and a semester long interdisciplinary team project, this class will provide insight into the problem identification and product design processes, user needs research, intellectual property research, experience design, Industrial Design, Interface Design, brand development and product centric fundraising processes.

499. Senior Capstone Project. (C)

The Senior Capstone Project is required for all BAS degree students, in lieu of the senior design course. The Capstone Project provides an opportunity for the student to apply the theoretical ideas and tools learned from other courses. The project is usually applied, rather than theoretical, exercise, and should focus on a real world problem related to the career goals of the student. The one-semester project may be completed in either the fall or spring term of the senior year, and must be done under the supervision of a sponsoring faculty member. To register for this course, the student must submit a detailed proposal, signed by the supervising professor, and the student's faculty advisor, to the Office of Academic Programs two weeks prior to the start of the term.

500. (EAS 400) Technical Communication in Engineering Practice. (C)

This course is not intended for non-native speakers of English and will not address their specific language needs. Students whose native language is not English should register for EAS 510. Students will learn methods and approaches for written technical communication within

the engineering environment. These include strategies for maximum effectiveness in writing technical documentation, reports, instructions, and proposals. Assignments will include self-editing and peer editing techniques, as well as strategies to effectively mentor other writers.

501. (EAS 401) Energy and its Impacts: Technology, Environment, Economics, Sustainability. (A)

Any university student interested in energy and its impacts, who is a graduate student or who is an undergraduate Junior or Senior seeking graduate course credit. Students taking the course as EAS 501 will be given assignments commensurate with graduate standing.

The objective is to introduce students to one of the most dominating and compelling areas of human existence and endeavor: energy, with its foundations in technology, from a quantitative sustainability viewpoint with its association to economics and impacts on environment and society. This introduction is intended both for general education and awareness and for preparation for careers related to this field, with emphasis on explaining the technological foundation. The course spans from basic principles to applications. A review of energy consumption, use, and resources; environmental impacts, sustainability and design of sustainable energy systems; introductory aspects of energy economics and carbon trading; methods of energy analysis; forecasting; energy storage; electricity generation and distribution systems (steam and gas turbine based power plants, fuel cells), fossil fuel energy (gas, oil, coal) including nonconventional types (shale gas and oil, oil sands, coalbed and tight-sand gas), nuclear energy wastes: brief introduction to renewable energy use: brief introduction to solar, wind, hydroelectric, geothermal, biomass; energy for buildings, energy for transportation (cars, aircraft, and ships); prospects for future energy systems: fusion power, power generation in space.

Students interested in specializing in one or two energy topics can do so by choosing them as their course project assignments.

502. (EAS 402) Renewable Energy and Its Impacts: Technology, Environment, Economics, Sustainability. (B)

The objective is to introduce students to the major aspects of renewable energy, with its foundations in technology, association to economics, and impacts on ecology and society. This introduction is intended both

for general education and awareness and for preparation for careers related to this field. The course spans from basic principles to applications. A review of solar, wind, biomass, hydroelectric, geothermal energy, and prospects for future energy systems such as renewable power generation in space.

503. (EAS 403) Energy Systems and Policy. (C)

This is a survey course that will examine the current U.S. energy industry, from production to consumption, and its impacts on local, regional, and the global environment. The course will seek to provide a fuller understanding of existing energy systems, ranging from technical overviews of each, a review of industry organization, and an exploration of the well-established policy framework each operates within. Near-term demands upon each energy supply system will be discussed, with particular focus on environmental constraints.

505. (EAS 301) Climate Policy and Technology. (C)

The course will exam Pacala and Socolow's hypothesis that "Humanity already possesses the fundamental scientific, technical and industrial know-how to solve the carbon and climate problem for the next half-century." Fifteen "climate stabilization wedges" i.e., strategies that each have the potential to reduce carbon emissions by 1 billion tons per year by 2054, will be examined in detail. Technology and economics will be reviewed. Socio-political barriers to mass-scale implementation will be discussed. Pacala and Socolow note "Every element in this portfolio has passed beyond the laboratory bench and demonstration project; many are already implemented somewhere at full industrial scale".

506. (EAS 306) Electricity and Systems Markets. (B)

The course discusses the existing electricity system from technical, economic, and policy perspectives. Basic power system engineering will be reviewed early in the course. Generation, transmission, distribution, and end-use technologies and economics will be discussed. Additional topics will include system operation, industry organization, government regulation, the evolution of power markets, environmental policy, and emerging technologies.

507. Intellectual Property and Business Law for Engineers. (C)

Engineers are often on the front line of innovation. The goal of this course is to introduce engineering students to the basics of Intellectual property (IP) and business laws that they will encounter throughout their careers. Understanding these laws is critical for the protection of IP and for the creation and success of high-tech start-up ventures. Market advantage in large part springs from a company's IP. Without legal protection and correct business formation, proprietary designs, processes, and inventions could be freely used by competitors, ruining market advantage. A basic understanding of IP laws, contractual transactions, employment agreements, business structures, and debt-equity financing will help engineering students to become effective employees or entrepreneurs, to acquire investors, and to achieve success. Though open to students of all disciplines, the course will use case studies particular relevance to students of engineering and applied science.

510. Technical Communication and Academic Writing for Non-native Speakers of English. (B) Graduate students whose native language is English, but who would benefit from a course in Technical Communication, should take EAS 500.

Students will improve the grammar, word choice and organization of their professional writing by completing weekly writing assignments and a full-length research paper. Students will also give short oral presentations and receive feedback on pronunciation, wording, grammar and organization.

512. Engineering Negotiation. (C)

The goal of this course is to teach students of engineering and applied science to be effective negotiators. It aims to improve the way these students communicate i virtually any human interaction. The course intends to improve the ability of engineers and other technology disciplines to gain more support more quickly for projects, research product and services development, and marketing. For those wanting to be entrepreneurs or intrapreneurs, the course is designed essentially to find the most value possible in starting up and running companies. Based on Professor Diamond's innovative and renowned model of negotiation, it is intended to assist those for whom technical expertise is not enough to persuade others, internally and externally, to provide resources, promotions and project

approvals; or to resolve disputes, solve problems and gain more opportunities.

Rejecting the 40-year-old notions of power, leverage and logic, the course focuses on persuasion by making better human connections, uncovering perceptions and emotions, and structuring agreements to be both collaborative and fair. This course is entrepreneurial in nature and can provide many times more value than traditional persuasion. The Getting More book has sold more than 1 million copies around the world and is also used by universities, corporations (Google), and U.S. Special Operations (SEALs, Green Berets, Special Forces, Marines) to save lives and reduce conflict. From the first day, students will do interactive cases based their own engineering-related problems and based on current problems in the news. There will be diagnostics enabling every student to assess his/her skill and improvements.

545. (IPD 545) Engineering Entrepreneurship I. (C) Prerequisite(s): Third or Fourth year or Graduate standing.

Engineers and scientists create and lead great companies, hiring managers when and where needed to help execute their vision. Designed expressly for students having a keen interest in technological innovation, this course investigates the roles of inventors and founders in successful technology ventures. Through case studies and guest speakers, we introduce the knowledge and skills needed to recognize and seize a high-tech entrepreneurial opportunity - be it a product or service - and then successfully launch a startup or spin-off company. The course studies key areas of intellectual property, its protection and strategic value; opportunity analysis and concept testing; shaping technology driven inventions into customer-driven products; constructing defensible competitive strategies; acquiring resources in the form of capital, people and strategic partners; and the founder's leadership role in an emerging high-tech company. Throughout the course emphasis is placed on decisions faced by founders, and on the sequential risks and determinants of success in the early growth phase of a technology venture. The course is designed for, but not restricted to, students of engineering and applied science and assumes no prior business education.

546. Engineering Entrepreneurship II. (C) Prerequisite(s): EAS 545.

This course is the sequel to EAS 545 and focuses on the planning process for a new technology venture. Like its prerequisite, the course is designed expressly for

students of engineering and applied science having a keen interest in technological innovation. Whereas EAS 545 investigates the sequential stages of engineering entrepreneurship from the initial idea through the early growth phase of a startup company, EAS 546 provides hands-on experience in developing a business plan for such a venture. Working in teams, students prepare and present a comprehensive business plan for a high-tech opportunity. The course expands on topics from EAS 545 with more in-depth attention to: industry and marketplace analysis; competitive strategies related to high-tech product/service positioning, marketing, development and operations; and preparation of sound financial plans. Effective written and verbal presentation skills are emphasized throughout the course. Ultimately, each team presents its plan to a distinguished panel of recognized entrepreneurs, investors and advisors from the high-tech industry.

590. Commercializing Information Technology. (C)

EAS 590 provides real world, hands-on learning on what it's like to actually start a high-tech company. We do that by using the Lean LaunchPad framework for Web start-ups. This class is not about how to write a business plan. Instead you will be getting your hands dirty talking to customers, partners, competitors, as you encounter the chaos and uncertainty of how a start-up actually works.

EAS 590 provides real world, hands-on learning on what it's like to actually start a high-tech company. We do that by using the Lean LaunchPad framework for Web start-ups. This class is not about how to write a business plan. Instead you will be getting your hands dirty talking to customers, partners, competitors, as you encounter the chaos and uncertainty of how a start-up actually works.

591. Leading Technology Teams.

Engineers routinely work in teams collaborating with experts from multiple fields to address increasingly large complex problems/opportunities. EAS 591, Leading Technology Teams, focuses on the dynamics of innovative, interdisciplinary, cross-functional teams. We examine ways to improve team performance by exploring technology leadership issues from multiple perspectives (i.e., the individual, the team, and the organization). Developing skills to be an effective technology team member, leader, and/or sponsor will provide you with a competitive advantage, not only for getting your first job but also for success throughout your career.

595. Foundations of Leadership. (C)

The goal of EAS 595 is to increase your capacity to effectively lead throughout your career and wherever you find yourself in an organization. This involves understanding and learning about yourself and about working effectively with others. The course starts with an identification of values, strengths, preferences and passions. It then proceeds with the personal and interpersonal and moves through the strategic aspects of leadership by bringing together aspects of management science, social psychology, psychology of personality and behavioral economics. Topics include teamwork and team dynamics, identifying life's goals and dreams, decision making, valuing differences, understanding the dynamics of influence, using power with integrity, giving and receiving feedback, leading change, and discovering where we can make our contribution.

898. CPT Research Practicum. (C)

SM 900. Resp Conduct Res Eng. (C)

101. Introduction to Engineering. (A)

This course is intended to introduce students to the field of engineering. It will expose students to the engineering disciplines through hands-on laboratory experiences. In addition, the course will provide tutorials on how to use important software packages as well as a "Professional Preparation" module through studies of communication (writing and speaking skills), ethics, leadership and teamwork. This course is ideal for any freshman interested in exploring the possibility of studying engineering at Penn. The course counts as a engineering requirement in SEAS.

212. Concepts in Micro- and Nanotechnology. (C) Prerequisite(s): Math 104 and Physics 93/140 (or higher), or permission of the instructor.

Seminar/Lecture course on micro- and nanotechnology intended for nonspecialists. This course will discuss how very small structures and devices, as well as systems comprising these devices, are fabricated and characterized, with application examples from microelectronics, microelectromechanical systems, and quantum devices and systems. Current societal and ethical implications of micro- and nanotechnology, as well as creation and exploitation of commercial opportunities, will be discussed.

503. Engineering in Oil, Gas and Coal, from Productin to End Use. (C)

While conventional wisdom is that the world is running out of fossil fuels, technical advances such as deep water production, directional drilling, hydrofracturing, and the refining of non-conventional crude oil sources has increased the resource base significantly and there are well over 100 years of reserves of oil, natural gas and coal. The effect of technology advances has been most profound in the United States, where net energy imports are projected to fall to 12% of consumption by 2020. Excellent, highly technical careers are available in these industries, with opportunities to reduce their impact on the environment and in particular on climate change. The course will cover engineering technology in oil, natural gas and coal from production through end use. It will equip graduating students with the knowledge to contribute in these industries and to participate in informed debate about them

375. Biological Data Science I - Fundamentals of Biostatistics. (C)

Prerequisite(s): Sophomores and Juniors only.

The purpose of this course is to provide students with skills to analyze and interpret small and large biological data sets. Fundamentals in probability and statistics will be taught through the use of homework problems, case studies and projects focused on computational analysis of biological data. Topics covered include: Populations and samples; random variable; discrete and continuous probability distributions; exploratory data analysis; descriptive statistics; confidence intervals; expectations; variances; central limit theorem; independence; hypothesis testing; fitting probability models; pvalues; goodness-of-fit tests; correlation coefficients; non-parametric tests; ANOVA; linear regression; bootstrapping; and maximum likelihood estimation.

512. Nonlinear Dynamics and Chaos. (C) Prerequisite(s): MATH 240 or ENM 510, Senior or Master's standing in engineering.

This course covers the essential mathematics behind continuous and discrete nonlinear dynamical systems with applications in Physics, Biology, Chemistry and Engineering. It covers one-dimensional, two-dimensional, three-dimensional and n-dimensional flows for continuous systems and one-dimensional flows for discrete systems. It also covers Cantor's set theory and Fractals.

220. Discrete Dynamical Systems and Chaos. (C) Prerequisite(s): MATH 103, MATH 104 and MATH 114 (Calculus of a Single Variable and some knowledge of Complex Numbers).

This course will cover the mathematics behind the dynamics of discrete systems and difference equations. Topics include: Real function iteration, Converging and Diverging sequences, Periodic and chaotic sequences, Fixed-point, periodic-point and critical-point theories, Bifurcations and period-doubling transitions to chaos, Symbolic dynamics, Sarkovskii's theorem, Fractals, Complex function iterations, Julia and Mandelbrot sets. In the past, mathematics was learned only through theoretical means. In today's computer age, students are now able to enjoy mathematics through experimental means. Using numerous computer projects, the student will discover many properties of discrete dynamical systems. In addition, the student will also get to understand the mathematics behind the beautiful images created by fractals. Throughout the course, applications to: Finance, Population Growth, Finding roots, Differential Equations, Controls, Game and Graph Problems, Networks, Counting Problems and other real-world systems will be addressed.

L/R 251. Analytical Methods for Engineering. (B) Prerequisite(s): MATH 240 or equivalent along with sophomore standing in SEAS, or permission of the instructor(s).

This course introduces students to physical models and mathematical methods that are widely encountered in various branches of engineering. Illustrative examples are used to motivate mathematical topics including ordinary and partial differential equations, Fourier analysis, eigenvalue problems, and stability analysis. Analytical techniques that yield exact solutions to problems are developed when possible, but in many cases, numerical calculations are employed using programs such as Matlab and Maple. Students will learn the importance of mathematics in engineering.

321. Engineering Statistics. (C)

This course covers the topics in probability and statistics with an emphasis on the application of probability theories and statistical techniques to practical engineering problems. Mathematical derivations of theorems will be presented whenever it is necessary to illustrate the concepts involved, however.

L/R 427. (MEAM527) Finite Elements and Applications. (A) Prerequisite(s): MATH 241 or ENM 251 and PHYS 151.

The objective of this course is to equip students with the background needed to carry out finite elements-based simulations of various engineering problems. The first part of the course will outline the theory of finite elements. The second part of the course will address the solution of classical equations of mathematical physics such as Laplace, Poisson, Helmholtz, the wave and the Heat equations. The third part of the course will consist of case studies taken from various areas of engineering and the sciences on topics that require or can benefit from finite element modeling. The students will gain hand-on experience with the multi-physics, finite element package FemLab.

L/R 502. Numerical Methods and Modeling. (B) Sinno. Prerequisite(s): Knowledge of a computer language, Math 240 and 241; ENM 510 is highly recommended; or their equivalents.

Numerical modeling using effective algorithms with applications to problems in engineering, science, and mathematics, and is intended for graduate and advanced undergraduate students in these areas. Interpolation and curve fitting, numerical integration, solution of ordinary and partial differential equations by finite difference, and finite element methods. Includes use of representative numerical software packages such as MATLAB PDE Toolbox.

503. Introduction to Probability and Statistics. (A) Prerequisite(s): MATH 240 or equivalent.

Introduction to combinatorics: the multiplication rule, the pigeonhole principle, permutations, combinations, binomial and multinomial coefficients, recurrence relations, methods of solving recurrence relations, permutations and combinations with repetitions, integer linear equation with unit coefficients, distributing balls into urns, inclusion-exclusion, an introduction to probability. Introduction to Probability: sets, sample set events, axioms of probability, simple results, equally likely outcomes, probability as a continuous set function and probability as a measure of belief, conditional probability, independent events, Bayes' formula, inverting probability trees. Random Variables: discrete and continuous, expected values, functions of random variables, variance. Some Special Discrete Random Variables: Bernoulli, Binomial, Poisson, Geometric, Pascal (Negative Binomial) Hypergeometric and Poisson.

Some Special Continuous Random Variables: Uniform, Exponential, Gamma, Erlang, Normal, Beta and Triangular. Joint distribution functions, minimum and maximum of independent random variables, sums of independent random variables, reproduction properties. Properties of Expectation: sums of random variables, covariance, variance of sums and correlations, moment-generating function. Limit theorems: Chebyshev's inequality, law of large numbers and the central-limit theorem. Extra Topics: Generating random numbers and simulation, Monte-Carlo methods, The Poisson Process and Queueing Theory, Stochastic Processes and Regular Markov Chains, Absorbing Markov Chains and Random Walks.

510. Foundations of Engineering Mathematics - I. (A) Prerequisite(s): MATH 240, MATH 241 or equivalent.

This is the first course of a two semester sequence, but each course is self contained. Over the two semesters topics are drawn from various branches of applied mathematics that are relevant to engineering and applied science. These include: Linear Algebra and Vector Spaces, Hilbert spaces, Higher-Dimensional Calculus, Vector Analysis, Differential Geometry, Tensor Analysis, Optimization and Variational Calculus, Ordinary and Partial Differential Equations, Initial-Value and Boundary-Value Problems, Green's Functions, Special Functions, Fourier Analysis, Integral Transforms and Numerical Analysis. The fall course emphasizes the study of Hilbert spaces, ordinary and partial differential equations, the initial-value, boundary-value problem, and related topics.

511. Foundations of Engineering Mathematics - II. (B) Prerequisite(s): ENM 510 or equivalent.

Vector Analysis: space curves, Frenet - Serret formulae, vector theorems, reciprocal systems, co and contra variant components, orthogonal curvilinear systems. Matrix theory: Gauss-Jordan elimination, eigen values and eigen vectors, quadratic and canonical forms, vector spaces, linear independence, Triangle and Schwarz inequalities, n-tuple space. Variational calculus: Euler-Lagrange equation, Finite elements, Weak formulation, Galerkin technique, FEMLAB. Tensors: Einstein summation, tensors of arbitrary order, dyads and polyads, outer and inner products, quotient law, metric tensor, Euclidean and Riemannian spaces, physical components, covariant differentiation, detailed evaluation of Christoffel symbols, Ricci's

theorem, intrinsic differentiation, generalized acceleration, Geodesics.

520. Principles and Techniques of Applied Math I. (A) Prerequisite(s): Basic theory of ordinary and partial differential equations.

This course is targeted to engineering PhD students in all areas. It will focus on the study of linear spaces (both finite and infinite dimensional) and of operators defined on such spaces. This course will also show students how powerful methods developed by the study of linear spaces can be used to systematically solve problems in engineering. The emphasis in this course will not be on abstract theory and proofs but on techniques that can be used to solve problems. Some examples of techniques that will be studied include, Fourier series, Green's functions for ordinary and partial differential operators, eigenvalue problems for ordinary differential equations, singular value decomposition of matrices, etc.

L/R 521. Principles and Techniques of Applied Math II. (B)

This course is a continuation of ENM 520 (or equivalent) and deals with classical methods in applied mathematics. The topics to be covered include: Functions of a Complex Variable, Partial Differential Equations, Asymptotic and Perturbation Methods, and Convex Analysis and Variational Methods.

540. Topics In Computational Science and Engineering. (M)

Prerequisite(s): Background in ordinary and partial differential equations; proficiency in a programming language such as MATLAB, C, or Fortran.

This course is focused on techniques for numerical solutions of ordinary and partial differential equations. The content will include: algorithms and their analysis for ODEs; finite element analysis for elliptic, parabolic and hyperbolic PDEs; approximation theory and error estimates for FEM.

600. Functional Analysis. (C)

Prerequisite(s): ENM 500, ENM 501 or ENM 510, ENM 511 or equivalent.

This course teaches the fundamental concepts underlying metric spaces, normed spaces, vector spaces, and inner-product spaces. It begins with a discussion of the ideals of convergence and completeness in metric spaces and then uses these ideas to develop the Banach fixed-point theorem

and its applications to linear equations, differential equations and integral equations. The course moves on to a study of normed spaces, vector spaces, and Banach spaces and operators defined on vector spaces, as well as functional defined between vector spaces and fields. The course then moves to the study of inner product spaces, Hilbert spaces, orthogonal complements, direct sums, and orthonormal sets. Applications include the study of Legendre, Hermite, Laguerre, and Chebyshev polynomials, and approximation methods in normed spaces. The course then concludes with a study of eigenvalues and eigenspaces of linear operators and spectral theory in finite-dimensional vector spaces.

601. Special Topics in Engineering Mathematics - Nonlinear Dynamics and Chaos. (B) Prerequisite(s): Permission of Instructor.

This course covers the essential mathematics behind continuous and discrete nonlinear dynamical systems with applications in Physics, Biology, Chemistry and Engineering. It covers one-dimensional, two-dimensional, three-dimensional and n-dimensional flows for continuous systems and one-dimensional flows for discrete systems. It also covers Cantor's set theory and Fractals.

BIOTECHNOLOGY (BIOT)

599. Biot Independent Study. (C)

700. Biotechnology Seminar. (C)

This is a seminar course where students hear different perspectives in the biotechnology and pharmaceutical industry. Speakers will discuss their experiences in business startups, technology transfer, bioinformatics, pharmaceutical houses, and academics.

L/L 105. Introduction to Scientific Computing.

This course will provide an introduction to computation and data analysis using MATLAB - an industry standard programming and visualization environment. The course will cover the fundamentals of computing including: variables, functions, decisions, iteration, and recursion. These concepts will be illustrated through examples and assignments which show how computing is applied to various scientific and engineering problems. Examples will be drawn from

the simulation of physical and chemical systems, the analysis of experimental data, Monte Carlo numerical experiments, image processing, and the creation of graphical user interfaces. This course does not assume any prior programming experience but will make use of basic concepts from calculus and Newtonian physics.

250. Energy Systems, Resources and Technology. (C) Prerequisite(s): Basic understanding of chemistry and physics.

The course will present a comprehensive overview of the global demand for energy, and the resource availability and technology used in its current and future supply. Through a personal energy audit, students will be made aware of the extensive role that energy plays in modern life, both directly, through electricity and transportation fuel, and indirectly in the manufacturing of goods they use. The course will cover how that energy is supplied, the anticipated global growth in energy demand, the resource availability and the role of science and technology in meeting that demand in a world concerned about climate change. The roles of conservation, improved efficiency and renewable energy in meeting future demand in a sustainable, environmentally benign way will be covered.

504. Fundamental Concepts in Nanotechnology. (C)

This is a Master's level course that seeks to teach the physics needed to begin a study of engineering and science at the nanometer scale. Since the nanometer scale is so close to the quantum scale, much of the course deals with an introduction to quantum mechanics but the course also includes discussions in solid-state physics, electricity and magnetism and mechanics. The objective of the course is to teach the physics that an engineering student would need to have in order to do experimental work at the nanometer scale. In addition, this course will prepare the student to take more advanced courses in the Nanotechnology Program.

NANOTECHNOLOGY (NANO)

597. Master's Thesis Research. (C)

599. Master's Independent Study. (C)

ENGLISH (AS) {ENGL}

See English Department website for current descriptions: www.english.upenn.edu

SM 015. (CIMS015, CLST019, COML016, GSWS017, LALS016) Topics in Literature. (C) For additional information, please see our website at: <https://www.english.upenn.edu>.

An introduction to Writing about Literature, with emphasis on a particular theme, genre, or period.

Freshman Seminar 016

See English Department website for current descriptions: www.english.upenn.edu

SM 016. (AFRC017, ARTH100, CIMS016, COML016, URBS106) Topics in Literature. (C) Freshman Seminar.

Freshman Seminars under the title "Topics in Literature" will afford entering students who are considering literary study as their major the opportunity to explore a particular and limited subject with a professor whose current work lies in that area. Topics may range from the lyric poems of Shakespeare's period to the ethnic fiction of contemporary America. Small class-size will insure all students the opportunity to participate in lively discussions. Students may expect frequent and extensive writing assignments, but these seminars are not writing courses; rather, they are intensive introductions to the serious study of literature. One of them may be counted toward the English major and may be applied to a period, genre, or thematic requirement within the major.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

Intermediate-Level Courses 017-097

See English Department website for current descriptions: www.english.upenn.edu

SM 001. (COML001) Approaches to Genre. (C)

Usually housed in the Program for Comparative Literature, this seminar engages questions of literary genre, including its function as a mediating presence for thinking about audience, literary history, and the marketplace. The theme of the seminar will change with the instructor. Customarily this course will be affiliated with Communication within the

Curriculum (CWIC), and so will have a speaking and presentation component to it.

SM 002. (COML002) Approaches to Literary Studies. (C)

Usually housed in the program for Comparative Literature, this seminar engages questions of method and interdisciplinarity. It will therefore cover not only a range of approaches to literary texts, but also explore how the methodologies of other disciplines might be brought efficaciously to bear on the objects of literary study. The theme of the seminar will change with the instructor. Customarily this course will be affiliated with Communication within the Curriculum (CWIC), and so will have a speaking and presentation component to it.

018. Old English. (M)

This course introduces students to the powerful and influential corpus of Old English literature. We will read a wide variety of texts: short poems such as *The Wanderer*, *The Seafarer*, *The Wife's Lament* and the passionate religious poem *The Dream of The Rood*; chronicles such as *The Battle Of Maldon Against The Vikings*, *The Old Testament*, *Exodus* and *Bede's Conversion Of The English*; and selections from the greatest of all English epics, *Beowulf*. Readings will be in Old English, and the first few weeks of the course will be devoted to mastering Old English prosody, vocabulary, and grammar (as well as a crash course on the early history of the English language). During the last few weeks we may read modern criticism of Old English poetry, or we will consider the modern poetic reception of Old English literature and explore theories and problems of translation, reading translations of Old English poems by Yeats, Auden, Tolkien, and Heaney.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 020. Literature Before 1660. (C)

This course will introduce students to key works of English literature written before 1660. It will explore the major literary genres of this period, as well as the social and cultural contexts in which they were produced. The course will examine how literature texts articulate changes in language and form, as well as in concepts of family, nation, and community during the medieval and early modern periods.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 021. (COML021) Medieval Literature and Culture. (M)

This course introduces students to four hundred years of English literary culture, from approximately 1100 to 1500. This period was marked by major transformations, not only with respect to government, law, religious practice, intellectual life, England's relation to the Continent (during the 100 Years War), the organization of society (especially after the Black Death), the circulation of literary texts, and the status of authors. Topics may include medieval women writers, manuscript production, literatures of revolt, courtly culture, Crusades, cross-Channel influences, and religious controversy.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

022. Romance. (M)

This course will focus on what is arguably the most extravagant, adventuresome, and fantastical of the literary genres: the Romance. We will read a number of medieval and renaissance romance narratives, in verse and prose, beginning with the Arthurian romances (*Malory's Morte D'Arthur*, *Sir Gawain And The Green Knight*) and continuing with as many (and as much) of the great renaissance romances as time will allow: *Sir Philip Sidney's Arcadia*, *Edmund Spenser's The Faerie Queen*, and *Lady Mary Wroth's Urania*.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

024. (CIMS024, COMM204) Introduction to American and British Film and Media. (M)

This is a course on the history of Hollywood. It seeks to unravel Hollywood's complex workings and explain how the business and politics of the film industry translate into the art of film. We will trace the American film industry from Edison to the internet, asking questions such as: What is the relationship between Hollywood and independent film? How has the global spread of Hollywood since the 1920s changed the film industry? How has Hollywood responded to crises in American politics (e.g., world wars, the cold war, terrorism)? And how have new technologies such as synchronized sound and color cinematography, television and the VCR, and new digital technologies changed film and the film industry? We will look closely at representative studios (Paramount, Disney, and others), representative filmmakers (Mary Pickford, Frank Capra, and George Lucas, among

many others), and we will examine the impact of industrial changes on the screen.

025. The Age of Chaucer. (M)

In this class we come to speak as people spoke in England some six centuries ago: in medieval or 'Middle' English. We do this by reading the poetry of Geoffrey Chaucer, a great poet who has influenced everyone from William Shakespeare to Sylvia Plath. Since Middle English takes some getting use to, class assignments are not heavy: usually about 800 lines per class. A typical class might begin by looking at a few of the easier passages in the *Canterbury Tales*, proceed to reading the greatest poem of love in the English language (Chaucer's *Troilus And Criseyde*), before moving on to other contemporary writers in medieval culture. We will likely compare representations of medieval Christianity, Judaism, and Islam, as well as aspects of film adaptation by Italian filmmaker Pasolini (and perhaps by Chaucer scholar Terry Jones). We will consider what it might have been like to live secure in an age of faith; yet to live insecure, as a dizzying new profusion of trades and occupations sprang up in unprecedented "divisions of labor." We will imagine being a medieval woman, and may visit and handle medieval manuscripts. Above all, we will enjoy the poetry.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

026. (THAR101) Early Drama. (M)

Early drama in English had its roots as much in Christianity as in Classical antiquity. What grew into the theater of Shakespeare began as networks of strolling players and church authorities in market towns sponsoring cycles of "miracle" and "mystery" plays. This course will introduce students to major dramatic works of the medieval and early modern periods, including plays written for the public stage, closet dramas, masques, mayoral pageants and other kinds of performances. The course will also pay attention to the development of different dramatic genres during these periods, as well as the social and cultural contexts in which they were produced. Students thus will explore the history of drama in English through the renaissance to the closing of the theaters in 1641 and their eventual reopening in 1660.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

029. (CLST102, COML167) Classical Antiquity and English Literature. (M)

Arts & Letters Sector. All Classes. [Formerly ENGL 096].

This course will examine the relationship between English literature and that of ancient Greece and Rome. At times we will discuss how classical theories of genre and aesthetics were appropriate and reinvented in medieval, renaissance, and seventeenth-century texts. What does it mean to call Hamlet and Oedipus The King tragedies, or *The Frogs* and *The Way Of The World* comedies? Should we consider the development of English drama and poetry as an extension of an imposing classical tradition or as a sustained and resistant response to it?

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

031. (COML031) Introduction to Renaissance Literature and Culture. (M) [Formerly ENGL 030].

This course will survey the cultural history of sixteenth and seventeenth century England. Interdisciplinary in nature and drawing on the latest methodologies and insights of English studies, we will explore how aesthetics, politics, social traditions, impacted literature at this vital and turbulent time of English history.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

032. Renaissance Poetics. (M)

An introduction to the theory and practice of verse in England from approximately 1500 to 1700. Primarily concerned with poems by Skelton, Wyatt, Surrey, Gascoigne, Sidney, Shakespeare, Spenser, Jonson, Donne, Herbert, Herrick, Marvel, and Milton, this course places special emphasis on the influence of classical and continental poetry in Renaissance England, reading English texts comparatively with texts by Horace, Ovid, Virgil, Petrarch, and du Bellay. The course also examines contemporary critical writing about poetics; debates about the fitness of English to sustain a literature; early efforts to invent a canon of English poets; the issue of translation; and the organization and status of pre-modern genres, like pastoral, epigram and elegy.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

033. (RELS015) The Bible As Literature. (M)

Successive generations have found the Bible to be a text which requires - even

demands - extensive interpretation. This course explores the Bible as literature, considering such matters as the artistic arrangement and stylistic qualities of individual episodes as well as the larger thematic patterns of both the Old and New Testaments and the Apocrypha. A good part of the course is spent looking at the place of the Bible in cultural and literary history and the influence of such biblical figures as Adam and Eve, David, and Susanna on writers of poetry, drama, and fiction in the English and American literary traditions.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

034. (CIMS138, FNAR034, HIST034) Cultures of The Book. (M) Humanities & Social Science Sector. Class of 2010 & beyond. [Formerly ENGL 071].

The impact of various technologies (from writing to various forms of manuscript to print to electronics) on the way the written word gives shape to a culture. The emphasis is on western cultures from Plato to the present, but participation by students with interest or expertise in non-western cultures will be of great value to the group as a whole. The course offers an ideal perspective from which students can consider meta-issues surrounding their own special interests in a wide variety of fields, as well as learn to think about the way in which traditional fields of study are linked by common inherited cultural practices and constructions.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

038. The Age of Milton. (M)

The seventeenth century was a time of revolution and upheaval, of excesses both puritanical and cavalier. It saw the execution of one kind and the restoration of another, and survived the English Civil War and the Great Fire and Great Plague of London. This course explores the literature of this century through the works of John Milton's major works (selected sonnets, *Comus*, *Areopagitica*, *Paradise Lost*, *Paradise Regained*, and *Samson Agonistes*), and his contemporaries. We will concentrate on a number of issues that governed writing in the period, particularly the tension between individual interiority and historical, social and political activity.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 040. British Poetry 1660 - 1914. (C)

This course provides students with a survey of British poetry and poetics from the Restoration to the Modern period, and usually will include writers ranging from Aphra Behn and Alexander Pope to Thomas Hardy. The course may be offered in various forms, some covering less, and some more historical back ground. Most will provide a sampling of eighteenth-century, Romantic, and Victorian poets.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

041. 18th-Century British Literature. (M)

An introduction to British literary and cultural history in the eighteenth century. Typically, this course will contain materials from the later seventeenth to the early nineteenth centuries--from the Restoration and Glorious Revolution through the Enlightenment, the American and French Revolutions, and the Napoleonic Wars--though it need not cover the entire period. We will read plays, poetry and prose in order to understand the aesthetic, intellectual, social and political issues of literary production and achievement in this period.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

043. (HIST038) Early American Literature. (M) [Formerly ENGL 082].

An introduction to the English-language literatures of North America and the Caribbean from the late 16th to the early 19th centuries. Works in various genres by Thomas Hariot, John Smith, William Bradford, Mary Rowlandson, Anne Bradstreet, Jonathan Edwards, Sarah Knight, Franklin, Jefferson, Wheatley, Freneau, Bryant, Poe, and many others.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

045. (GSWS045) 18th-Century Novel. (M)

This survey of the novel addresses key questions about the novel's "rise" in the eighteenth century on both sides of the Atlantic, as well as attending to the cultural conditions that attended this new literary form. How did the concurrent "rise" of the middle classes and the emergence of an increasingly female reading public affect the form and preoccupations of early novels? What role did institutions like literary reviews, libraries, and the church play in the novel's early reception? While

reading will vary from course to course, students should expect to read such authors as Austen, Behn, Brockden Brown, Burney, Defoe, Fielding, Richardson, Rowlandson, Rowson, Scott, and Smollett.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

046. Drama from 1660 - 1840. (M)

This course surveys drama from the Restoration through the Romantic period, and in so doing explores arguably the most tumultuous period of British and American Theater history. These years saw the reopening of the theaters in London in 1660 after their having been closed through two decades of Civil War and Puritan rule. They witnessed the introduction of actresses to the stage, the development of scenery and the modern drop-apron stage, the establishment of theatrical monopolies in 1660 and stringent censorship in 1737, and the gradual introduction, acceptance, and eventual celebration of the stage in America. Perhaps most importantly, they oversaw some of the best comedies and farces in the English language, the introduction of pantomime and the two-show evening, sustained experimentation with music and spectacle on stage, and the transformation of tragedy into a star vehicle for actors and actresses like David Garrick, Sarah Siddons, John Philip Kemble, and Edmund Kean.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

050. The Romantic Period. (M)

This course offers an introduction to the literature of the Romantic period (ca. 1770-1830). Some versions of this course will incorporate European romantic writers, while others will focus exclusively on Anglo-American romanticism, and survey authors such as Austen, Blake, Brockden Brown, Byron, Coleridge, Emerson, Irving, Keats, Radcliffe, Scott, Shelley, and Wordsworth.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

051. (CIMS051, GSWS051) 19th-Century British Literature. (M)

In 1815 in the wake of the battle of Waterloo, Great Britain controlled a staggering quarter of the world's landmass and half of its gross national product. This course will begin with the Napoleonic Wars and this Regency aftermath to survey a century of British literature -- from Romanticism through the revolutions of 1848 and the Victorian and Edwardian

periods to the beginning of the first World War. Most versions of this course will read both novels and poetry, often focusing on the relation between the two and their function within nineteenth century culture. Others may incorporate drama and non-fiction prose.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

053. 19th-Century American Literature. (M) [Formerly ENGL 083].

A consideration of outstanding literary treatments of American culture from the early Federalist period to the beginnings of the First World War. We will traverse literary genres, reading autobiographies and travel accounts as well as fiction and poetry.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

054. (AFRC054, COML054, MUSC054) Sounding Poetry: Music and Literature. (A) Arts & Letters Sector. All Classes.

Never before has poetry been so inescapable. Hip hop, the soundtrack of our times, has made rhyme, meter, and word-play part of our daily lives. How did this happen? This course begins not on the page, but in the bardic traditions of Homer's Iliad, which encoded many of the values of its time in oral formulas. Poetry was, however, no mere encyclopedia, but also a source of risk, as we will read in Plato's warning against its hypnotic powers, and in the excesses of the Bacchae. We continue through 19th and 20th century attempts to recover these classic traditions (Wordsworth, Longfellow, Pound). Yet Europe was not the only center of poetic production. How does the Homeric tradition relate to living traditions of West African singing poets (griots) and Southern African praise songs? And what traces of these traditions can we hear in the blues? We will listen to early blues recordings and discuss the politics of collecting folklore, and the genius of African American modernists (Langston Hughes, Claude McKay, Georgia Douglas Johnson) who bought vernacular speech onto the page. We will read and listen to a number of 20th century poets inspired when page meets stage in jazz poetry, dub poetry, spoken word, and hip hop. Assignments will include 2 papers, 2 small-group performances, memorization exercises, and a creative adaptation of one poem.

055. (COML055, GSWS055) 19th-Century Novel. (M)

During the nineteenth century the novel became the dominant literary form of its day, supplanting poetry and drama on both sides of the Atlantic. In this introduction to the novelists of the period, we will read the writers who secured the novel's cultural respectability and economic prominence. Likely authors will include Austen, the Brontës, Collins, Dickens, Eliot, Hardy, Hawthorne, Melville, Poe, Thackeray, Scott, and Stowe. The course will explore the themes, techniques, and styles of the nineteenth-century novel. It will focus not only on the large structural and thematic patterns and problems within each novel but also on the act of reading as a historically specific cultural ritual in itself.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

056. (THAR125) Modern Drama. (M)

This course will explore the major dramatic and theatrical movements that constitute the "modern," from the successive rises of melodrama and "realism" in the nineteenth century, to those theatrical aesthetics that positioned themselves beyond or against realism at the turn of the twentieth century, to the present day. We'll explore political theatre, the invention of the *avant garde*, the rise of the *auteur-director*, performance art, feminist and queer theatres, and the integration of non-western theatre into shared theatre practice in the colonial and post-colonial world.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

057. (AFRC057, LALS057) Literature of the Americas to 1900. (M) [Formerly ENGL 080].

This course examines U.S. literature and culture in the context of the global history of the Americas. Historical moments informing the course will range from the origins of the Caribbean slave-and-sugar trade at the beginning of the nineteenth century, to the Monroe Doctrine of 1823 and the U.S. Mexico and Spanish-American wars. Readings will include works by authors such as Frances Calderón de la Barca, Frederick Douglass, Helen Hunt Jackson, Henry Wadsworth Longfellow, José Martí, Herman Melville, John Rollin Ridge, María Amparo Ruiz de Burton, and Félix Varela.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

058. Irish Literature. (M) [Formerly ENGL 063].

This course will provide an introduction to modern Irish literature, focusing on the tension between Ireland's violent history and its heroic mythology. This tension leaves its mark not only on the ravaged landscape, but also on the English language, which displays its "foreignness" most strongly in the hands of Irish writers. Readings will span the genres of poetry, drama, fiction, and history, and will include works by Somerville and Ross, Yeats, George Moore, Joyce, Synge, O'Casey, Beckett, Edna O'Brien, and Brian Friel.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

059. (COML059) Modernisms and Modernities. (M)

This class explores the international emergence of modernism, typically from the middle of the 19th century to the middle of the 20th century. We will examine the links between modernity, the *avant-garde*, and various national modernisms that emerged alongside them. Resolutely transatlantic and open to French, Spanish, Italian, German, or Russian influences, this course assumes the very concept of Modernism to necessitate an international perspective focusing on the new in literature and the arts -- including film, the theatre, music, and the visual arts. The philosophies of modernism will also be surveyed and concise introductions provided to important thinkers like Marx, Nietzsche, Sorel, Bergson, Freud, and Benjamin.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

060. Rise of the Novel. (M)

This course explores the history of the British novel and the diverse strategies of style, structure, characterization, and narrative techniques it has deployed since the late seventeenth century. While works from the eighteenth and nineteenth centuries will form the core of the reading, some versions of this course will include twentieth-century works. All will provide students with the opportunity to test the advantages and limitations of a variety of critical approaches to the novel as a genre. Readings may include works by Behn, Swift, Defoe, Richardson, Fielding, Lennox, Smollett, Burney, Scott, Austen, the Brontës, Dickens, Eliot, Hardy, Conrad, Joyce, Lawrence, Woolf, Rhys, Greene, Naipaul, Carter, Rushdie, and Coetzee.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

061. (CIMS160) 20th-Century British Literature. (M)

This course introduces major works in twentieth-century British literature. We will read across a range of fiction, poetry, plays, and essays, and will consider aesthetic movements such as modernism as well as historical contexts including the two World Wars, the decline of empire, and racial and sexual conflict. Authors treated might include: Conrad, Yeats, Joyce, Eliot, Lawrence, Forster, Shaw, Woolf, Auden, Orwell, Beckett, Achebe, Rhys, Synge, Naipaul, Rushdie, Heaney, and Walcott.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

062. (COML062) 20th-Century Poetry. (M)

From abstraction to beat, from socialism to negritude, from expressionism to ecopoetry, from surrealism to visual poetry, from collage to digital poetry, the poetry of the twentieth century has been characterized by both the varieties of its forms and the range of its practitioners. This course will offer a broad overview of many of the major trends and a few minor eddies in the immensely rich, wonderfully varied, ideologically and aesthetically charged field. The course will cover many of the radical poetry movements and individual innovations, along with the more conventional and idiosyncratic work, and will provide examples of political, social, ethnic, and national poetics, both in the Americas and Europe, and beyond to the rest of the world. While most of the poetry covered will be in English, works in translation, and indeed the art of translation, will be an essential component of the course.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

064. Modern America. (M) [Formerly ENGL 084].

This course is concerned with American literature and cultural life from the turn of the century until about 1950. The course emphasizes the period between the two World Wars and emphasizes as well the intellectual and cultural milieu in which the writers found themselves. Works by the following writers are usually included: James, Eliot, Frost, Fitzgerald, Faulkner, West, Stevens, DuBois, Williams, Wharton, Stein, West, Moore, and Hemingway.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

065. (AFST065, COML065) 20th-Century British Novel. (M)

This course traces the development of the novel across the twentieth-century. The course will consider the formal innovations of the modern novel (challenges to realism, stream of consciousness, fragmentation, etc.) in relation to major historical shifts in the period. Authors treated might include: Conrad, Lawrence, Joyce, Forster, Woolf, Cather, Faulkner, Hemingway, Achebe, Greene, Rhys, Baldwin, Naipaul, Pynchon, Rushdie, and Morrison.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

069. (AFRC069, COML069) Poetry and Poetics. (M)

What is poetry and what place does it have among literary forms? What is its relation to culture, history, and our sense of speakers and audiences? This course will focus on various problems in poetic practice and theory, ranging from ancient theories of poetry of Plato and Aristotle to contemporary problems in poetics. In some semesters a particular school of poets may be the focus; in others a historical issue of literary transmission, or a problem of poetic genres, such as lyric, narrative, and dramatic poetry, may be emphasized. The course will provide a basic knowledge of scansion in English with some sense of the historical development of metrics. This course is a good foundation for those who want to continue to study poetry in literary history and for creative writers concentrating on poetry.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

070. (ARTH070, COML070, GSWS060, LALS060) Latina/o Literature and Culture. (M)

A survey of cultural productions by Latinas/os (i.e. people of Latin American descent who have been raised in the U.S.) that usually will focus on the twentieth century, but might at times examine earlier periods instead. The course will take a culturally and historically informed approach to a wide range of novels, poems, plays, and films, and will sometimes include visual art and music. Writers and artists might include Am©rico Paredes, Piri Thomas, Cherr©e Moraga, Sandra Cisneros, Julia Alvarez, Junot D©az, Cristina Garc©a, El Teatro Campesino, John Leguizamo,

Carmen Lomas Garza, the Hernandez Brothers, and Los Tigres del Norte.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

071. (AFRC001, AFRC071, AFST071) Literatures of Africa and the African Diaspora. (M) Humanities & Social Science Sector. Class of 2010 & beyond.

This course will serve as an introduction to a particularly rich arena of literature in English. It will also help students to begin to understand many other racial subtexts underlying the culture wars in America, where too often, in the full glare of cameras, an anguished voice informs the audience that 'as an African, I cannot expect justice in this America.'

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

072. (ASAM002) Asian American Literature. (M) Arts & Letters Sector. All Classes.

An overview of Asian American literature from its beginnings at the turn of the twentieth century to the present. This course covers a wide range of Asian American novels, plays, and poems, situating them in the contexts of American history and minority communities and considering the variety of formal strategies these different texts take.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

074. (AFRC085, CIMS074) Contemporary American Literature. (M) [Formerly ENGL 085].

The readings for this course expose the student to a wide range of American fiction and poetry since World War II, giving considerable attention to recent work. Works may include *All The King's Men* by Robert Penn Warren, *Herzog* by Saul Bellow, *On The Road* by Jack Kerouac, *V* by Thomas Pynchon, *Of Love and Dust* by Ernest J.Gaines, *A Flag For Sunrise* by Robert Stone, *The Killing Ground* by Mary Lee Settle, and selected poem by Ginsberg, Plath, and Walcott. Readings vary from term to term.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

L/R 075. (COML074, HIST117, HSOC110, STSC110) Science and Literature. (M) Arts & Letters Sector. All Classes.

This course will explore the emergence of modern science fiction as a genre, the ways

it has reflected our evolving conceptions of ourselves and the universe, and its role as the mythology of modern technological civilization. We will discuss such characteristic themes as utopias, the exploration of space and time, biological engineering, superman, robots, aliens, and other worlds--and the differences between European and American treatment of these themes.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

079. (CIMS159, COML282, NELC159) Jewish-American Literature. (M) Arts & Letters Sector. All Classes.

This topic course explores aspects of Hebrew Literature, Film and Culture.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

080. (AFRC079, MUSC080) Literatures of Jazz. (M)

That modernism is steeped as much in the rituals of race as of innovation is most evident in the emergence of the music we have come to know as jazz, which results from collaborations and confrontations taking place both across and within the color line. In this course we will look at jazz and the literary representations it engendered in order to understand modern American culture. We will explore a dizzying variety of forms, including autobiography and album liner notes, biography, poetry, fiction, and cinema. We'll examine how race, gender, and class influenced the development of jazz music, and then will use jazz music to develop critical approaches to literary form. Students are not required to have a critical understanding of music. Class will involve visits from musicians and critics, as well as field trips to some of Philadelphia's most vibrant jazz venues.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

081. (AFRC081) African-American Literature. (M)

An introduction to African-American literature, typically ranging across a wide spectrum of moments, methodologies, and ideological postures, from Reconstruction and the Harlem Renaissance to the Civil Rights Movement. Most versions of this course will begin in the 19th century; some versions of the course will concentrate only on the modern period.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

082. (ANTH082, RELS091) Native-American Literature. (M)

From oral traditions to modern forms, this course surveys the diverse body of Native American literature through its many transformations and contexts, from examples of oral literature to film, poetry, fiction, essays, and drama. Possible authors include Leslie Marmon Silko, Sarah Winnemucca, Sherman Alexie, James Welch, N. Scott Momaday, and Louise Erdrich.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

087. (COML110, THAR101) Theatre, History and Culture I, Classical Athens to Elizabethan London. (C)
Arts & Letters Sector. All Classes.

This course will explore the forms of public performance, most specifically theatre, as they emerge from and give dramatic shape to the dynamic life of communal, civic and social bodies, from their anthropological origins in ritual and religious ceremonies, to the rise of great urban centers, to the closing of the theaters in London in 1642. This course will focus on development of theatre practice in both Western and non-Western cultures intersects with the history of cities, the rise of market economies, and the emerging forces of national identity. In addition to examining the history of performance practices, theatre architecture, scenic conventions and acting methods, this course will investigate, where appropriate, social and political history, the arts, civic ceremonies and the dramaturgic structures of urban living.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

088. American Poetry. (M)

Some versions of this course survey American poetry from the colonial period to the present, while others begin with Whitman and Dickinson and move directly into the 20th century and beyond. Typically students read and discuss the poetry of Williams, Stein, Niedecker, H.D., Pound, Stevens, Fearing, Rakoksi, McKay, Cullen, Wilbur, Plath, Rich, Ginsberg, Kerouac, Waldman, Creeley, Ashberry, O'Hara, Corman, Bernstein, Howe, Perelman, Silliman, and Retallack.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

089. American Fiction. (M)

Some versions of this course survey the American novel from its beginnings to the present, focusing on the development of the

form, while others concentrate on the development of American fiction in one or two periods. Readings may include novels by writers such as Brown, Cooper, Hawthorne, Melville, Wharton, Morrison, Twain, James, Adams, Chopin, Howells, Norris, Whitman, Dreiser, Fitzgerald, Hemingway, Faulkner, Dos Passos, Ellison, and Nabokov.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

090. (AFRC090, COML090, GSWS090) Gender, Sexuality, and Literature. (M)

This course will focus on questions of gender difference and of sexual desire in a range of literary works, paying special attention to works by women and treatments of same-sex desire. More fundamentally, the course will introduce students to questions about the relation between identity and representation. We will attend in particular to intersections between gender, sexuality, race, class, and nation, and will choose from a rich vein of authors: Mary Wollstonecraft, Jane Austen, Mary Shelley, Lord Byron, the Brontes, Christina Rossetti, George Eliot, Oscar Wilde, Henry James, Gertrude Stein, Zora Neale Hurston, E. M. Forster, Virginia Woolf, Nella Larsen, Radclyffe Hall, Willa Cather, Elizabeth Bishop, Jean Rhys, James Baldwin, Sylvia Plath, Bessie Head, Audre Lorde, Adrienne Rich, Cherrë Moraga, Toni Morrison, Michael Cunningham, Dorothy Allison, Jeanette Winterson, and Leslie Feinberg.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

091. (ARTH108, CIMS101, COML123) World Film History to 1945. (C)
Arts & Letters Sector. All Classes.

This course is an introduction to the history of cinema from the 1890s to the present. In demonstrating how history energizes and complicates the movies, we will examine numerous film cultures and historical periods, including Hollywood silent cinema, Italian neo-realism, the French New Wave, recent films from Iran, and a variety of other film movements from different historical epochs and cultures. Screenings will feature movies such as Sergei Eisenstein's *THE BATTLESHIP POTEMKIN* (1925), Jean Renoir's *THE GRAND ILLUSION* (1937), Nicholas Ray's *REBEL WITHOUT A CAUSE* (1955), Jean-Luc Godard's *CONTEMPT* (1963), Spike Lee's *DO THE RIGHT THING* (1989), Sally Potter's *ORLANDO* (1992), and Pedro Almodovar's *TALK TO*

HER (2003). Our aim is to establish a broad historical and global foundation for the understanding of film as a complex exchange between art, technology, politics, and economics. Screenings will be mandatory.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

092. (ARTH109, CIMS102, COML124) World Film History 1945-Present. (C)
Arts & Letters Sector. All Classes.

This course is an introduction to the analysis of film as both a textual practice and a cultural practice. We will examine a variety of films--from Fritz Lang's *M* (1931) to Julia Dash's *DAUGHTERS OF THE DUST* (1991)--in order to demonstrate the tools and skills of "close reading." We will concentrate on those specifically filmic features of the movies, such as mise-en-scene, cinematography, editing and sound strategies, as well as those larger organizational forms, such as narrative and non-narrative structures and movie genres. Because our responses to the movies always extend beyond the film frame, we will additionally look closely at the complex business of film distribution, promotion, and exhibition to show how the less visible machinery of the movie business also shapes our understanding and enjoyment of particular films. Along the way, we will discuss some of the most influential and productive critical schools of thought informing film analysis today, including realism, auteurism, feminism, postmodernism, and others. Screenings are mandatory.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

093. (AFRC093, COML093, LALS093) Introduction to Postcolonial Literature. (M)

English is a global language with a distinctly imperial history, and this course serves as an essential introduction to literary works produced in or about the former European colonies. The focus will be poetry, film, fiction and non fiction and at least two geographic areas spanning the Americas, South Asia, the Caribbean and Africa as they reflect the impact of colonial rule on the cultural representations of identity, nationalism, race, class and gender.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

094. (COML094, GRMN279) Introduction to Literary Theory. (M)

This course introduces students to major issues in the history of literary theory, and provides an excellent foundation for the English major or minor. Treating the work of Plato and Aristotle as well as contemporary criticism, we will consider the fundamental issues that arise from representation, making meaning, appropriation and adaptation, categorization and genre, historicity and genealogy, and historicity and temporality. We will consider major movements in the history of theory including the "New" Criticism of the 1920's and 30's, structuralism and post-structuralism, Marxism and psychoanalysis, feminism, cultural studies, critical race theory, and queer theory.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

095. (COML116) Introduction to Film Theory. (B)

This course offers students an introduction to the major texts in film theory across the 20th and 21st centuries. The course gives students an opportunity to read these central texts closely, to understand the range of historical contexts in which film theories are developed, to explore the relationship between film theory and the major film movements, to grapple with the points of contention that have emerged among theorists, and finally to consider: what is the status of film theory today? This course is required for all Cinema Studies majors, but is open to all students, and no prior knowledge of film theory is assumed. Requirements: Close reading of all assigned texts; attendance and participation in section discussions; 1 midterm exam; 1 take-home final exam.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

096. (GSWS096) Theories of Gender and Sexuality. (M) Humanities & Social Science Sector. Class of 2010 & beyond.

What makes men and women different? What is the nature of desire? This course introduces students to a long history of speculation about the meaning and nature of gender and sexuality -- a history fundamental to literary representation and the business of making meaning. We will consider theories from Aristophanes' speech in Plato's Symposium to recent feminist and queer theory. Authors treated might include: Plato, Shakespeare, J. S. Mill, Mary Wollstonecraft, Sigmund Freud, Virginia Woolf, Simone de Beauvoir,

Adrienne Rich, Audre Lorde, Michel Foucault, Gayle Rubin, Catherine MacKinnon, Eve Kosofsky Sedgwick, Judith Butler, bell hooks, Leo Bersani, Gloria Anzaldua, David Halperin, Cherrë Moraga, Donna Haraway, Gayatri Spivak, Diana Fuss, Rosemary Hennesy, Chandra Tadpole Mohanty, and Susan Stryker.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

097. (COML111, THAR102) Theatre, History and Culture II. (M)

This course examines theatre and performance in the context of the border urban, artistic and political cultures housing them from the Renaissance to the mid-19th century. Encompassing multiple cultures and traditions, it will draw on a variety of readings and viewings designed to locate the play, playwright, trend or concept under discussion within a specific socio-historical context. The evolution of written and performed drama, theatre architecture, and scenography will be examined in tandem with the evolution of various nationalisms, population shifts, and other commercial and material forces on theatrical entertainment. Readings consequently will be drawn not only from plays and other contemporary documents, but also from selected works on the history, theory, design technology, art, politics or society of the period under discussion.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

098. (COML112, THAR112) Theatre, History and Culture III. (C) Arts & Letters Sector. All Classes.

This course will examine the interplay of theatrical theory, theatrical practice, and dramatic writing, in relation to contemporaneous societies and cultures, from the first experiments in penetrating the boundaries of "realism" at the end of the nineteenth century, through the present day. Areas of exploration include the invention of the avant garde, the rise of the auteur-director, political theatre, competing theories about the actor's body and the actor's emotions, performance art, feminist theatre, queer theatre, and the integration of non-western theatre into shared theatre practice in the colonial and post-colonial world.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

Sector Requirement Courses 100-105

See English Department website for current descriptions: www.english.upenn.edu

100. (AFRC105, COML100, RUSS195) Introduction to Literary Study. (C)

Arts & Letters Sector. All Classes. This course is intended to serve as a foundation for students interested in going on to become English majors.

Literature does not exist for your protection. So dangerous is it, that Socrates argued poets ought to be banned from his ideal Republic. And Socrates himself--one of the most subversive of all poetic thinkers--was condemned to death for corrupting the young with his speeches. All great literature is unsettling and alarming. Along with its beauty and delicacy and rhetorical power and ethical force, it can be terrifyingly sublime and even downright ugly: full of contempt and horror and grandiosity and malice. From Socrates' day to our own, countless writers have been jailed, exiled, and murdered, their works censored, banned, burned, for daring to say what others wish would remain unsaid--about religion and the State; sexuality, gender, and the body; art, science, and commerce; freedom and order; love and hate--and for saying it in ways that are aesthetically innovative, surprising, seductive, ravishingly unanticipated.

This course will introduce you to fundamentals of literary style, form, and history, and to approaches to reading and interpretation. It will also mean paying close attention to your own writing, in a series of brief essays and blog contributions in which you'll learn better how to meet the demands of college-level writing while striving always to be a dangerous writer yourself.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

101. (AFRC101, CIMS100, COML117, GSWS101) Study of an Author. (C) Arts & Letters Sector. All Classes.

This course introduces students to literary study through the works of a single author--often Shakespeare, but other versions will feature writers like Jane Austen, Geoffrey Chaucer, Herman Melville, and August Wilson (For offerings in a given semester, please see the online course descriptions on the English Department website at www.english.upenn.edu). Readings an individual author across his or her entire career offers students the rare opportunity to examine works from several critical perspectives in a single course. What is the author's relation to his or her time? How do our author's works help us to understand

literary history more generally? And how might we understand our author's legacy through performance, tributes, adaptations, or sequels? Exposing students to a range of approaches and assignments, this course is an ideal introduction to literary study for those students wishing to take an English course but not necessarily intending to major.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

L/R 102. (CIMS112, COML245, GSWS102, PSYS102) Study of a Literary Theme. (C) Arts & Letters Sector. All Classes.

This is an introduction to literary study through the works of a compelling literary theme. (For offerings in a given semester, please see the online course descriptions on the English Department website). The theme's function within specific historical contexts, within literary history generally, and within contemporary culture, are likely to be emphasized. Some versions of this course will also serve as an introduction to other members of the English faculty, who will visit the class as guest lecturers. This course is designed for the General Requirement, and is ideal for the students wishing to take an English course but not necessarily intending to major.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

103. (COML125, COML128, FOLK125, NELC180, SAST124) Literary Genres. (C) Arts & Letters Sector. All Classes.

An introduction to literary study through a genre, either the short story or poetry. Versions of this course will vary widely in the selection of texts assigned. Some versions will begin with traditional stories or poems, including a sampling of works in translation. Others will focus exclusively on modern and contemporary American short fiction or poetry. This course is designed for the General Requirement, and is ideal for the students wishing to take an English course but not necessarily intending to major.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

104. (AFRC106, CIMS104, COML050, COML104) Study of a Literary Period. (C) Arts & Letters Sector. All Classes.

This is an introduction to literary study through a survey of works from a specific historical period. (For offerings in a given semester, please see the on-line course

descriptions on the English Department website.) Some versions will begin with traditional stories or poems, including a sampling of works in translation. Others will focus exclusively on modern and contemporary American short fiction or poetry. This course is designed for the General Requirement, and is ideal for students wishing to take an English course but not necessarily intending to major.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

L/R 105. (COML106, COML253, GRMN253, GSWS252, HIST253) Topics in Literature and Society. (C) Humanities & Social Science Sector. Class of 2010 & beyond.

While the topic of this course varies from semester, its subject is always the relation between literature and socio-economic realities: political, economic, social, and of identity. Past versions of English 105 have included "The World of Work," "Disability Narratives," and "Conflict in Print." Each devotes a number of weeks to the economic and social theories underlying its given subject in order to provide students with adequate background.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

Creative Writing Courses 010, 111-119, 121, 130, 135, 145, 155-159, 161, 162,

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See English Department website for current descriptions: www.english.upenn.edu

SM 010. Creative Writing. (C) This course does not satisfy the writing requirement.

A course designed to allow the students to discover their own talents in at least two forms from a list that includes fiction, poetry, journalistic writing, creative nonfiction writing, and memoir. Though emphasis is on practice, classroom work includes discussion of theory as well as readings in published works. Frequent writing assignments. Reading lists vary with each section. See the English Department's website at www.english.upenn.edu for a description of the current offerings.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 111. (COML115) Experiential Writing Seminar. (C)

We spend our lives in front of screens, mostly wasting time: checking social media, watching cat videos, chatting, and shopping. What if these activities clicking, SMSing, status-updating, and random surfing were used as raw material for creating compelling and emotional works of literature? Could we reconstruct our autobiography using only Facebook? Could we write a great novella by plundering our Twitter feed? Could we reframe the internet as the greatest poem ever written? Using our laptops and a wifi connection as our only materials, this class will focus on the alchemical recuperation of aimless surfing into substantial works of literature. Students will be required to stare at the screen for three hours, only interacting through chat rooms, bots, social media and listservs. To bolster our practice, we'll explore the long history of the recuperation of boredom and time-wasting through critical texts about affect theory, ASMR, situationism and everyday life by thinkers such as Guy Debord, Mary Kelly Erving Goffman, Betty Friedan, Raymond Williams, John Cage, Georges Perec, Michel de Certeau, Henri Lefebvre, Trin Minh-ha, Stuart Hall, Sianne Ngai, Siegfried Kracauer and others. Distraction, multi-tasking, and aimless drifting is mandatory.

See English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 112. Workshop for Fiction Writers. (C) May be repeated for credit with a different instructor. Students wishing to take this course must submit a writing sample as part of the selection process.

This course emphasizes the study and practice of basic techniques of short fiction, with assignments divided between readings and discussion of student-written material.

See English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 113. (AFRC114) Poetry Writing Workshop. (C) Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with different instructor.

This is a workshop for students who are interested in exploring a variety of approaches to poetry. Students will encounter a diverse series of readings, in-class writing activities, weekly writing assignments, and creative methods for heightening your abilities as a reader and writer.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 114. (THAR114) Playwriting Workshop. (C) Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with different instructor.

The expressive possibilities and limitations of the stage medium through close reading of plays of various styles and period, study of the various resources of various types of theater, and original exercise in dramatic writing.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 115. Workshop for Advanced Fiction Writers. (C) Prerequisite(s): ENGL 112 or the equivalent. This course is not open to freshmen. May be repeated for credit with a different instructor.

The writing of individually selected projects (a novel, a group of short stories) with reading assignments and discussion of student works-in-progress.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 116. (CIMS116) Screenwriting Workshop. (C) Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with a different instructor.

This course will look at the screenplay as both a literary text and a blue print for production. Several classic screenplay texts will be critically analyzed (REBEL WITHOUT A CAUSE, DOCTOR STRANGELOVE, PSYCHO, etc.) Students will then embark on writing their own scripts. We will intensively focus on: character enhancement, creating "believable" cinematic dialogue, plot development and story structure, conflict, pacing, dramatic foreshadowing, the element of surprise, text and subtext and visual story-telling. Class attendance is mandatory. Students will submit their works-in-progress to the workshop for discussion.

See English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 117. The Arts and Popular Culture. (C)

This is a workshop-oriented course that will concentrate on all aspects of writing about artistic endeavor, including criticism, reviews, profiles, interviews and essays.

For the purposes of this class, the arts will be interpreted broadly, and students will be able -- and, in fact, encouraged -- to write about both the fine arts and popular culture. Students will be doing a great deal of writing throughout the course, but the main focus will be a 3000-word piece about an artist or arts organization in Philadelphia (or another location approved by the instructor) that will involve extensive reporting, interviews and research. Potential subjects can range from a local band to a museum, from a theater group to a comedian.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 118. Advanced Poetry Writing Workshop. (C) This workshop is designed for those students who have taken the introductory workshop ENGL 113 or its equivalent and desire advance study. Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with a different instructor.

This workshop is especially valuable for creative writing concentrators in poetry within the English Major, for those who are working on longer works, or for those who wish to work on a series of poems connected by style and subject matter.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 120. (COML121) Working with Translations. (M) This course is not open to freshman. Permission of instructor required.

In this class we will study and translate some of the major figures in 20th century poetry, including Rainer Maria Rilke, Claire Malroux, Pablo Neruda, Cesare Pavese, Anna Akhmatova, and Bei Dao. While the curriculum will be tailored to the interests and linguistic backgrounds of the students who enroll, all those curious about world poetry and the formidable, irresistible act of translation are welcome. Students should have at least an intermediate knowledge of a language other than English. We will study multiple translations of seminal poems, render our own versions in response, and have the additional opportunity to work directly from the original. Students may also work in pairs, or groups. A portion of the course will be set up as a creative writing workshop in which to examine the overall effect of each others' translations so that first drafts can become successful revisions. While class discussions will explore the contexts and particularity of (among others)

Urdu, Italian, French, and Polish poetry, they might ultimately reveal how notions of national literature have radically shifted in recent years to more polyglottic and globally textured forms. Through guest speakers, essays on translation theory, and our own ongoing experiments, this course will celebrate the ways in which great poetry underscores the fact that language itself is a translation. In addition to the creative work, assignments will include an oral presentation, informal response papers, and a short final essay.

SM 121. (AFRC121) Writing for Children. (C) This course is not open to freshmen. Students wishing to take this course must submit a writing sample as part of the selection process. May be repeated for credit with a different instructor.

This is a course for students who have always thought it would be easy, fun, interesting, or rewarding to write a children's book. The class will be conducted as a seminar, using a wide variety of published children's books in all genres--picture books, chapter books, young fiction, older fiction as examples of successful books for young readers.

See English Department website at www.english.upenn.edu for a description of current offerings.

SM 122. (FNAR256, FNAR556) Grotesque Forms. (C)

An introduction to letterpress printing and bookmaking and writing for the artist book, focusing on the history of the artist book, competence in letterpress technique, print composition and design skills, and alternative book binding. Course readings will focus on the work of Joanna Drucker and Jerome Rothenberg, and the examination of multi-media works. Field trips to local artist book collections will supplement course reading, projects, and the final project. The entire class will be taught, and practiced, through the lens of "the grotesque" in art and literature. As a final project, each student will make their own limited-edition artist book that considers the course theme of "the grotesque" through writing, image, printing and binding.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 130. (CIMS130) Advanced Screenwriting. (C) This course is not open to freshman. Students wishing to take this course must submit a writing sample as part of the selection process.

This is a workshop-style course for students who have completed a screenwriting class,

or have a draft of a screenplay they wish to improve. Classes will consist of discussing student's work, as well as discussing relevant themes of the movie business and examining classic films and why they work as well as they do.

See English Department website at www.english.upenn.edu for a description of current offerings.

SM 135. (AFRC134, ENGL435, WRIT135) Creative Non-Fiction Writing. (C) May be repeated for credit with a different instructor.

A workshop course in the writing of expository prose. Assignments include informal as well as formal essays, covering such topics as autobiography, family history, review, interview, analysis of advertising and popular culture, travel, work, and satire.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 145. (AFRC145, GSWS145, URBS273) Advanced Non-Fiction Writing. (C) This course is not open to freshmen. May be repeated for credit with a different instructor.

Writing with a view to publication in the freelance sections of newspapers such as THE PHILADELPHIA INQUIRER and THE NEW YORK TIMES, in magazines such as THE ATLANTIC and THE NEW YORKER, and in the literary quarterlies and the journals of opinion. Among the areas likely to be considered are writing as a public act, issues of taste and of privacy, questions of ethics and of policy, methods of research and of checking, excerpting, marketing, and the realistic understanding of assignments and of the publishing world. Student papers will be the basis of weekly editorial sessions, with concentration on the language: how to render material literate, how to recognize and dispose of padding and self-indulgence, how to tighten structure and amplify substance.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 155. Writing in the Documentary Tradition. (C) Candidates for this course are required to submit as soon as possible their best example of nonfiction prose. A brief interview with the instructor is required before a permission to enroll can be granted. This course is not open to freshmen.

This course will function as a workshop, with a select group of students. It's a course that will honor the spirit and tradition of "documentary" writing. The word

"documentary" has meant many things over time. Here, it means a kind of nose-close observation and reportage. It means a level of being with one's subject matter in a way that other creative writing courses do not allow because of their format and structure. In English 155, a student writer at Penn will dare to "hang" with his topic--a girl's high-school basketball team; a medical intern in a HUP emergency room; a cleaning lady doing the graveyard shift in a classroom building; a food-truck operator crowding the noontime avenues; a client-patient in the Ronald McDonald House near campus; a parish priest making his solitary and dreary and yet redemptive rounds of the sick and the dying in the hospital--for the entire term. At the term's end, each writer in the course will have produced one extended prose work: a documentary piece of high creative caliber. This is our goal and inspiration. The piece will be 35 to 40 pages long, at minimum.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 156. Photographs and Stories.

(C) Please send at your convenience a writing sample(s) to Paul Hendrickson at: phendric@english.upenn.edu.

A new creative writing course built entirely around the use of photographs, and the crafting of compelling nonfiction narratives from them. The essential concept will be to employ photographs as storytelling vehicles. So we will be using curling, drugstore printed Kodak shots from our own family albums. We will be using searing and famous images from history books. We will be taking things from yesterday's newspaper. We will even be using pictures that were just made by the workshop participants outside the campus gates with a disposable camera from CVS or with their own sophisticated digital Nikon. In all of this, there will be one overriding aim to achieve memorable, full-bodied stories. To locate the strange, evocative, storytelling universes that are sealed inside the four rectangular walls of photograph. They are always there, if you know how to look. It's about the quality of your noticing, the intensity of your seeing.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 157. Entrepreneurial Journalism. (C)

This workshop is designed as an introduction to journalistic writing. Topics may include Writing about Food, Journalism and the Environment, Digital Newswriting, and other themes.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 158. (STSC118) Advanced Journalistic Writing. (C)

A workshop in creative writing devoted to original student work in journalism. See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 159. Political Writing in the Digital Age: The 2014 MidTerm Elections. (C) May be repeated for credit with a different instructor.

A primer on writing about U.S. politics, in an era of major technological upheaval and serious voter polarization. Today's 24/7, wi-fi'd, blogging environment--along with the rise of new conservative media are changing the ways that writers cover politics and deliver the information.

See English Department website at www.english.upenn.edu for a description of current offerings.

SM 160. Reading & Writing In The "New Journalism". (C) Staff. Please send at your convenience a writing sample(s) to Paul Hendrickson at: phendric@english.upenn.edu.

This course will focus on the most revolutionary period in contemporary journalism - the 1960s, when writers such as Tom Wolfe, Michael Herr, Gay Talese, Anthony Lukas, Norman Mailer, and Thomas B. Morgan vastly expanded the possibilities of non-fiction. Dubbed "the new journalism," its practitioners adapted certain aspects of the novel (scenes, dialogue, structure) in order to better tell true-life stories. Students in this course will read extensively, to understand how these breakthrough writers have profoundly influenced the long-form journalism of today. A book about the New Journalism, "The Gang That Couldn't Write Straight," will be used as a reference. Each student will also write a long-form journalistic piece, using many elements of the form.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 161. The Art of the Profile. (C) The course is not open to freshmen.

One of the toughest challenges for any journalist is to master the art of the profile-writing. In this new course, students will read and critique some of the classic profile articles of the past 40 years, and, most importantly, write profile articles of their own. Writing about people is often very rewarding, but rarely easy. In this course,

students will debate the questions that have plagued and energized journalists for generations: How do you persuade somebody that he or she is a worthy topic for a profile? How do you ask sensitive questions? If the person is a celebrity, how do you avoid being manipulated into writing a "puff piece"? Do you tape the interviews or just take notes? How do you structure a profile in order to keep the reader's attention? Is it even possible to capture the essence of a person on the written page? Are you a friend to the profile subject--or a manipulator? A journalist at *The New Yorker* recently said that a writer's relationship with the profile subject is "a kind of love affair." On the other hand, a famous author once said that a profile writer is typically "gaining their trust and betraying without remorse." Which is closer to the truth?

Students, in addition to writing their own profiles, will kick around these questions while reading some of the best contemporary profile writers, including Susan Orlean, Gay Talese, David Remnick, Mark Bowden, and Judy Bachrach. The instructor will also offer several of his own.

See English Department website at www.english.upenn.edu for a description of current offerings.

SM 162. Covering Political Elections. (C)

This course is not open to freshman. In this new course, students with a passion for both writing and politics will have the unique opportunity to track the news as it unfolds week by week, to critique it in class, and, most importantly, to write about it in a variety of formats, ranging from "straight" news to informed opinion. Students can expect spirited class debate about the elusive nature of "objectivity," the often thin line between truth and rumor, the challenges of fact-checking a candidate's "spin," the challenges of writing responsibly in an era when even facts seem to be polarized, the challenges of analyzing primary results and writing about it effectively, the growing pressure on journalists to reveal their political beliefs, and much more. Some of the writing will happen in class; students will view excerpts from debates and Sunday shows, and file their reports "on deadline." Some of the class sessions will focus on the hottest news of the moment. And students will also have a chance, in class, to critique some of the nation's best political writers--reporters, feature writers, columnists, and bloggers.

See English Department website at www.english.upenn.edu for a description of current offerings.

SM 165. Writing through Culture and Art. (C)

May be repeated for credit with a different instructor. This is a year-long creative writing class, given as a collaboration of the Center for Programs in Contemporary Writing and the Institute of Contemporary Art. Students will be encouraged to develop correspondent methods of responding to the ICA's exhibitions. The class will involve monthly trips to New York City to attend concerts, museums and lectures. The students will have access to the most cutting--edge artists today via class visits and studio visits. English 165 will culminate in a publication co-sponsored by the ICA and CPCW.

See English Department website at www.english.upenn.edu for a description of current offerings.

199. Independent Study in Writing.

(C) Interested students must receive permission by the professor and the English Department.

Supervised study in writing.

English Research Seminars

See English Department website for current descriptions: www.english.upenn.edu

SM 200. Junior Research Seminar.

(C) This course is required of most English Majors.

This course offers junior English majors the opportunity to design and undertake a semester-long research and writing project in an advanced seminar setting. Discussions will address debates within the field/period/topic of the course, research methods, and advanced writing and critical thinking issues.

SM 218. Topics In Old English. (M)

Spaces will be reserved for English majors.

This seminar explores an aspect of Anglo-Saxon culture intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 220. Topics in Medieval Literature. (M)

Spaces will be reserved for English Majors.

An in-depth examination of some specialized aspect of medieval literature. Topics in the past have included the medieval romance, the education of princes, the "mirror of mirrors" in Trojan and Arthurian romances, and medieval narrative.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 221. (COML221, COML354, GSWS223) Topics In Medieval Literature. (M)

[Formerly ENGL 220]. Spaces will be reserved for English majors.

This seminar explores an aspect of medieval literature intensively; specific course topics will vary from year to year. Topics in the past have included the medieval performance, medieval women, and medieval law and literature.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 222. (COML076, COML222, GSWS221) Topics In Romance. (M)

Staff. Spaces will be reserved for English majors.

This seminar explores an aspect of epic or romance intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 225. Topics In Chaucer. (M)

Spaces will be reserved for English Majors.

This course explores an aspect of Chaucer's writings intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 226. Topics In Drama to 1660. (M)

Spaces will be reserved for English majors.

This course explores an aspect of drama before 1660 intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 229. (CLST329, CLST360, CLST361, COML296, GSWS228) Topics In Classicism and Literature. (M)

[Formerly ENGL 296]. Spaces will be reserved for English majors.

This advanced seminar will examine the classical backgrounds to English poetry, in particular the Biblical and Greco-Roman antecedents to Renaissance lyric verse and verse drama (such as, preeminently, Shakespeare). Different versions of this course will have different emphases on Biblical or Hellenist backgrounds.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 231. (COML230) Topics In Renaissance Literature. (M) [Formerly ENGL 230]. Spaces will be reserved for English majors.

This course explores an aspect of renaissance literature intensively; specific topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 234. (COML411, HIST411) Topics In The History of the Book. (M) [Formerly ENGL 297 or 298]. Spaces will be reserved for English majors.

This course explores an aspect of the History of the Book intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 236. (THAR236) Topics In Renaissance Drama. (M) Spaces will be reserved for English Majors.

Through specialized readings, writing assignments, and in-class acting exercises, the class will develop methods of interpreting Shakespeare's plays through theatrical practice. Topics include Shakespeare's use of soliloquy, two and three person scenes, the dramatic presentation of narrative source material, modes of defining and presenting the "worlds" of the plays, and the use of theatrical practice to establish authoritative text.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 238. Topics In 17th-Century Literature. (M) Spaces will be reserved for English Majors.

This course explores an aspect of 17th-century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 241. (COML239, EALC126, GSWS241, RELS209) Topics In 18th-Century Literature. (M) Spaces will be reserved for English Majors.

This course explores an aspect of 18th-century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 243. Topics In Early American Literature. (M) Spaces will be reserved for English Majors.

This course explores an aspect of early American literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 245. (GSWS245) Topics In The 18th-Century Novel. (M) Spaces will be reserved for English Majors.

This course explores an aspect of 18th-century novel intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 248. (STSC322) Topics In Transatlantic Literature. (M) Spaces will be reserved for English majors.

This course explores an aspect of transatlantic literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 250. (HIST491) Topics In Romanticism. (M) Spaces will be reserved for English Majors.

This course explores an aspect of Romantic literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 251. (CIMS251, COML249, GSWS250) Topics In 19th-Century Literature. (M) Spaces will be reserved for English Majors.

This course explores an aspect of 19th-century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 253. (AFRC263, GSWS284, HIST231) Topics In 19th-Century American Literature. (M) [Formerly ENGL 283] Spaces will be reserved for English majors.

This course explores an aspect of 19th-century American literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 254. (COML109) Topics in Music and Literature. (M) Spaces will be reserved for English Majors.

The particular of the seminar will change depending on the instructor, and so it is particularly recommended that students consult the actual course description for that semester. These are housed on the Department of English's website at: www.english.upenn.edu

SM 255. (COML261, GSWS255, JWST263) Topics In The 19th-Century Novel. (C) Spaces will be reserved for English Majors.

This course explores an aspect of the 19th-century novel intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 256. (AFRC275, COML267, THAR270, THAR274) Topics In Modern Drama. (M) [Formerly ENGL 271]. Spaces will be reserved for English majors.

This course explores an aspect of Modern drama intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 258. Topics in Irish Literature. (C) Spaces will be reserved for English Majors.

This course explores an aspect of modern Irish literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 259. (COML140, GRMN249, GSWS269) Topics In Modernism. (M)

Prerequisite(s): Pre-requisites some knowledge of 20th-century poetry. [Formerly ENGL 210] Spaces will be reserved for English majors.

This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year. Past offerings have included seminars on the avant-garde, on the politics of modernism, and on its role in shaping poetry, music, and the visual arts.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 260. (AFRC262, FREN250, GSWS226, GSWS260, LALS260) Topics In The Novel. (M) Spaces will be reserved for English Majors.

This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 261. (CIMS261, COML075, GRMN236, GSWS266, JWST262) Topics In 20th-Century Literature. (M) Spaces will be reserved for English Majors.

The course explores an aspect of 20th-century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 262. (COML274) Topics In 20th-Century Poetry. (M) Spaces will be reserved for English majors.

The course explores an aspect of 20th-century poetry intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 263. (ARTH301, CIMS263, COML262) Topics In 20th-Century American Literature. (M) Spaces will be reserved for English majors.

The course explores an aspect of 20th-century American literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 264. (AFRC266, GSWS274, RELS191) Topics In Modern American Literature. (M) [Formerly ENGL 284]. Spaces will be reserved for English majors.

This course explores an aspect of Modern American literature intensively; specific course topics will vary, and have included "American Expatriotism," "The 1930's," and "Intimacy and Distance: William Faulkner, Zora Neale Hurston, Eudora Welty, and Richard Wright."

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 265. (COML263, GSWS293) Topics In The 20th-Century Novel. (M) Spaces will be reserved for English Majors.

This course explores an aspect of the 20th-century novel intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 266. (ARTH297, ARTH697, CIMS266) Topics In Law and Literature. (M) Spaces will be reserved for English majors.

This course explores an aspect of law and literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 269. (AFRC273, COML281) Topics In Poetry and Poetics. (M) [Formerly ENGL 270]. Spaces will be reserved for English majors.

This course explores an aspect of poetry and poetics intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 270. (CIMS294, COML284, LALS291, ROML290, THAR375) Topics In Latina/o Literature. (M) Spaces will be reserved for English Majors.

This course explores an aspect of Latina/o literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 271. (AFRC276, AFRC283, AFST272, COML273) Topics In the Literature of Africa and the African Diaspora. (M) Spaces will be reserved for English Majors.

This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 272. (ASAM202, CIMS272) Topics In Asian American Literature. (M) Spaces will be reserved for English Majors.

This seminar is an advanced-level topics-based version of ENGL 072, Introduction to Asian American Literature. The intended audience is junior and senior

English majors and advanced students in Asian studies, Asian American studies, contemporary U.S. and world history, ethnic studies, urban studies, etc. Typical versions of this seminar will include representations and images of Asians in contemporary U.S. novels and films; Asian American literature by women; Asian American film narrative and film aesthetics; studies in Asian American literature and visual art; Asian American literature and immigration; Asian American literature in the context of the literature of exile and journey; Asian American literature 1929-1945; Asian American literature, 1945 to the present; Anglophone/South Asian literature in England, 1970 to the present; Southeast Asia, Vietnam, and American literature, 1970-1990; etc. Students will typically present research projects and write several long essays.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 274. (AFRC385, CIMS271, GSWS285, THAR271) Topics In Contemporary American Literature. (M) [Formerly ENGL 285]. Spaces will be reserved for English majors.

This course explores an aspect of contemporary American literature intensively; specific course topics will vary from year to year but have included "The Literary History of The Cold War, 1947-1957" and the "Kelly House Fellows Seminar."

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 276. (THAR240, THAR241, THAR250, THAR275) Topics In Theatre History. (M) Spaces will be reserved for English Majors.

The purpose of this course is to introduce students to the basic materials and methods of theatre history and historiography, as applied to a particular topic, organized around a specific period, national group, or aesthetic issue. This course is concerned with methodological questions: how the history of theatre can be documented; how primary documents, secondary accounts, and historical and critical analyses can be synthesized; how the various components of the theatrical event--acting, scenography, playhouse architecture, audience composition, the financial and structural organization of the theatre industry, etc.--relate to one another; and how the theatre is socially and culturally constructed as an art form in relation to the politics and culture of a society in a particular time and place.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

279. (CIMS279, COML277, GRMN261, GRMN263) Topics In Jewish and Jewish-American Literature. (M) Arts & Letters Sector. All Classes. [Formerly ENGL 287] Spaces will be reserved for English Majors.

This course explores an aspect of Jewish and/or Jewish-American literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 280. (AFRC325) Topics in Africana Studies. (M) Spaces will be reserved for English Majors.

Courses carrying this number are special-topic seminars, and will vary from semester to semester depending on the interests of the instructor. See this semester's courses on the English website at: www.english.upenn.edu for current offerings.

SM 281. (AFRC281, AFRC335, CIMS330, COMM281) Topics In African-American Literature. (M) Spaces will be reserved for English Majors.

In this advanced seminar, students will be introduced to a variety of approaches to African American literatures, and to a wide spectrum of methodologies and ideological postures (for example, The Black Arts Movement). The course will present an assortment of emphases, some of them focused on geography (for example, the Harlem Renaissance), others focused on genre (autobiography, poetry or drama), the politics of gender and class, or a particular grouping of authors. Previous versions of this course have included "African American Autobiography," "Backgrounds of African American Literature," "The Black Narrative" (beginning with eighteenth century slave narratives and working toward contemporary literature), as well as seminars on urban spaces, jazz, migration, oral narratives, black Christianity, and African-American music.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 282. (ANTH282, CIMS282, ENVS246, RELS208, RELS246) Topics In Native American Literature. (M) Spaces will be reserved for English Majors.

This course explores an aspect of Native-American literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 284. (AFRC286) Topics In Race and Ethnicity. (M) Spaces will be reserved for English Majors.

This course explores an aspect of race and ethnicity intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 286. (AFRC289, CIMS280, COML105, LALS286) Topics In American Literature. (M) Spaces will be reserved for English Majors.

This course explores an aspect of American literature intensively; specific course topics will vary, and have included "American Authors and the Imagined Past" and "American Gothic."

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 288. (AFRC288, COML288) Topics In American Poetry. (M) Spaces will be reserved for English Majors.

Sometimes limiting itself to the works of one or two authors, sometimes focusing on a particular theme such as "American Poetry and Democratic Culture," this course devotes itself to the study of twentieth-century American poetry.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 290. (AFRC290, COML290, GSWS290, GSWS328, MUSC290) Topics In Gender, Sexuality, and Literature. (M) Spaces will be reserved for English Majors.

The advanced women's studies course in the department, focusing on a particular aspect of literature by and about women. Topics might include: "Victorian Literary Women"; "Women, Politics, and Literature"; "Feminist Literary Theory"; and similar foci.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 291. (ARTH391, CIMS201, COML201, FNAR320) Topics In Film History. (M) Spaces will be reserved for English Majors.

This course explores an aspect of Film History intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 292. (ARTH289, CIMS202, COML292, GSWS292, SAST212) Topics In Film Studies. (M) Spaces will be reserved for English Majors.

This course explores an aspect of Film Studies intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 293. (AFRC293, COML378, LALS293, ROML296, SAST323) Topics In Postcolonial Literature. (M) Spaces will be reserved for English Majors.

This course explores an aspect of Postcolonial literature intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 294. (COML291, GSWS296) Topics In Literary Theory. (M) [Formerly ENGL 204] Spaces will be reserved for English majors.

This course explores an aspect of literary theory intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 295. (ARTH293, CIMS295, CIMS296, CIMS350, COML295) Topics In Cultural Studies. (M) Spaces will be reserved for English majors.

This course explores an aspect of cultural studies intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

299. Independent Study in Language and Literature. (C) Interested students must receive permission by the professor and the English Department.

Supervised reading and research.

399. Independent Study in Language and Literature. (C) Interested students must receive permission of the professor and the English department. This course number is for two course units and created for LPS students.

Supervised reading and research.

The English Honors Program, 311

See English Department website for current descriptions: www.english.upenn.edu

SM 311. The Honors Program. (C)

Students must receive permission from the Director of English Honors Program.

An essay of substantial length on a literary or linguistic topic, written under the supervision of a faculty adviser.

See the English Department's website at www.english.upenn.edu for a description of current offerings.

Benjamin Franklin Seminars:

See English Department website for current descriptions: www.english.upenn.edu

SM 305. Literary Research and Methods. (M) Benjamin Franklin Seminar.

The literary research seminar will introduce English Majors to the variety of modes of conducting literary research and dealing with literary texts. It is conceived as a seminar that will enhance the critical and textual skills of any student, as well as acquainting students with electronic research methods.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 318. Topics In Old English. (M) Benjamin Franklin Seminar.

This seminar explores an aspect of Anglo-Saxon culture intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 321. Topics In Medieval Literature. (M) Benjamin Franklin Seminar.

This seminar explores an aspect of medieval literature intensively; specific course topics will vary from year to year. Topics in the past have included the medieval performance, medieval women, and medieval law and literature.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 322. Topics In Romance. (M) Benjamin Franklin Seminar.

This seminar explores an aspect of epic or romance intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 323. (COML333, ITAL333) Topics In Medieval Poetry. (M) Benjamin Franklin Seminar.

This course explores an aspect of Medieval poetry intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 325. Topics In Chaucer. (M) Benjamin Franklin Seminar.

This course explores an aspect of Chaucer's writings intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 326. Topics In Drama to 1660. (M) Benjamin Franklin Seminar.

This course explores an aspect of drama before 1660 intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 329. (CLST329, CLST331, COML329) Topics In Classicism and Literature. (M) Benjamin Franklin Seminar.

This advanced seminar will examine the classical backgrounds to English poetry, in particular the Biblical and Greco-Roman antecedents to Renaissance lyric verse and verse drama (such as, preeminently, Shakespeare). Different versions of this course will have different emphases on Biblical or Hellenist backgrounds.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 331. Topics In Renaissance Literature. (M) [Formerly ENGL 330]. Benjamin Franklin Seminar.

This course explores an aspect of renaissance literature intensively; specific topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 334. Topics In The History of The Book. (M) Benjamin Franklin Seminar.

This course explores an aspect of the History of the Book intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 336. Topics In Renaissance Drama. (M) Benjamin Franklin Seminar.

Through specialized readings, writing assignments, and in-class acting exercises, the class will develop methods of interpreting Shakespeare's plays through theatrical practice. Topics include Shakespeare's use of soliloquy, two and three person scenes, the dramatic presentation of narrative source material, modes of defining and presenting the "worlds" of the plays, and the use of theatrical practice to establish authoritative text.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 338. Topics In 17th-Century Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of 17th-Century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 341. (GSWS341) Topics In 18th-Century Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of 18th-Century British literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 342. Topics In 18th-Century Poetry. (M) Benjamin Franklin Seminar.

This course explores an aspect of 18th-Century poetry intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 343. Topics In Early American Literature. (M) [Formerly ENGL 382]. Benjamin Franklin Seminar.

This course explores an aspect of early American literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 345. (GSWS335) Topics In The 18th Century Novel. (M) Benjamin Franklin Seminar.

This course explores an aspect of 18th-Century novel intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 346. (THAR240) Topics In Drama, 1660 to 1840. (M) Benjamin Franklin Seminar.

This course explores an aspect of drama from 1660 to 1840 intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 348. Topics In Transatlantic Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of transatlantic literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 350. Topics In Romanticism. (M) Benjamin Franklin Seminar.

This course explores an aspect of Romantic literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 351. Topics In 19th-Century Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of 19th-Century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 352. Topics In 19th-Century Poetry. (M) Benjamin Franklin Seminar.

This course explores an aspect of 19th-Century poetry intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 353. (AFRC352, GSWS353) Topics In 19th-Century American Literature. (M) [Formerly ENGL 383]. Benjamin Franklin Seminar.

This course explores an aspect of 19th-Century American literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 355. Topics In The 19th-Century Novel. (M) Benjamin Franklin Seminar.

This course explores an aspect of the 19th-Century novel intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 356. (COML332, GSWS371, THAR275, THAR279) Topics In Modern Drama. (M) Benjamin Franklin Seminar.

This course explores an aspect of Modern drama intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 358. Topics In Irish Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of Irish literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 359. (COML355) Topics In Modernism. (M) [Formerly ENGL 310]. Benjamin Franklin Seminar.

This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year. Past offerings have included seminars on the avant-garde, on the politics of modernism, and on its role in shaping poetry, music, and the visual arts.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 360. (COML361, FREN250) Topics In The Novel. (M) [Formerly ENGL 375] Benjamin Franklin Seminar.

This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 361. (COML271) Topics In 20th-Century Literature. (M) Benjamin Franklin Seminar.

The course explores an aspect of 20th-Century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 362. Topics In 20th-Century Poetry. (M) Benjamin Franklin Seminar.

The course explores an aspect of 20th-Century poetry intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 363. Topics In 20th-Century American Literature. (M) Benjamin Franklin Seminar.

The course explores an aspect of 20th-Century American literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 364. Topics In Modern American Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of Modern American literature intensively; specific course topics will vary, and have included "American Expatriatism," "The 1930's," and "Intimacy and Distance: William Faulkner, Zora Neale Hurston, Eudora Welty, and Richard Wright."

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 365. Topics In The 20th-Century Novel. (M) Benjamin Franklin Seminar.

This course explores an aspect of the 20th-century novel intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 366. Topics In Law and Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of law and literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 369. (GSWS369, PSYS369) Topics In Poetry and Poetics. (M) [Formerly ENGL 370]. Benjamin Franklin Seminar.

This course explores an aspect of poetry and poetics intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 370. (LALS370) Topics In Latina/o Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of Latina/o literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 371. (AFRC371) Topics In the Literature of Africa and The African Diaspora. (M) Benjamin Franklin Seminar.

This course explores an aspect of the literature of Africa and the African Diaspora intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 372. Topics In Asian American Literature. (M) Benjamin Franklin Seminar.

This seminar is an advanced-level topics-based version of ENGL 072, Introduction to Asian American Literature. The intended audience is junior and senior English majors and advanced students in Asian studies, Asian American studies, contemporary U.S. and world history, ethnic studies, urban studies, etc. Typical versions of this seminar will include representations and images of Asians in contemporary U.S. novels and films; Asian American literature by women; Asian American film narrative and film aesthetics; studies in Asian American literature and visual art; Asian American literature and immigration; Asian American literature in the context of the literature of exile and journey; Asian American literature 1929-1945; Asian American literature, 1945 to the present; Anglophone/South Asian literature in England, 1970 to the present; Southeast Asia, Vietnam, and American literature, 1970-1990; etc. Students will typically present research projects and write several long essays.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 374. Topics In Contemporary American Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of contemporary American literature intensively; specific course topics will vary from year to year but have included "The Literary History of The Cold War, 1947-1957" and the "Kelly House Fellows Seminar."

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 375. (GRMN239) Topics in Literature and Philosophy. (M)

Often examining novels from several countries, this course approaches fiction from a thematic perspective. Offerings in the past have included: "Exiles and Expatriates," reading works by Forster, Greene, Gide, Thomas Mann, Hemingway, Edward Said, Malcolm Cowley, and others: "The Works and Worlds of William Faulkner and Franz Kafka;" and "The Contemporary Novel in England and Europe."

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 376. (THAR240) Topics In Theatre History. (M) Benjamin Franklin Seminar.

The purpose of this course is to introduce students to the basic materials and methods of theatre history and historiography, as applied to a particular topic, organized around a specific period, national group, or aesthetic issue. This course is concerned with methodological questions: how the history of theatre can be documented; how primary documents, secondary accounts, and historical and critical analyses can be synthesized; how the various components of the theatrical event--acting, scenography, playhouse architecture, audience composition, the financial and structural organization of the theatre industry, etc.--relate to one another; and how the theatre is socially and culturally constructed as an art form in relation to the politics and culture of a society in a particular time and place.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 379. Topics In Jewish and Jewish-American Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of Jewish and/or Jewish-American literature

intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 381. (AFRC381) Topics In African-American Literature. (M) Benjamin Franklin Seminar.

In this advanced seminar, students will be introduced to a variety of approaches to African American literatures, and to a wide spectrum of methodologies and ideological postures (for example, The Black Arts Movement). The course will present an assortment of emphases, some of them focused on geography (for example, the Harlem Renaissance), others focused on genre (autobiography, poetry or drama), the politics of gender and class, or a particular grouping of authors. Previous versions of this course have included "African American Autobiography," "Backgrounds of African American Literature," "The Black Narrative" (beginning with eighteenth century slave narratives and working toward contemporary literature), as well as seminars on urban spaces, jazz, migration, oral narratives, black Christianity, and African-American music.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 382. Topics In Native-American Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of Native-American literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 384. Topics In Race and Ethnicity. (M) Benjamin Franklin Seminar.

This course explores an aspect of race and ethnicity intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 386. (ARTH386) Topics In American Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of American literature intensively; specific course topics will vary, and have included "American Authors and the Imagined Past" and "American Gothic."

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 390. (GSWS390) Topics In Gender, Sexuality, and Literature. (M) Benjamin Franklin Seminar.

The advanced women's studies course in the department, focusing on a particular aspect of literature by and about women. Topics might include: "Victorian Literary Women"; "Women, Politics, and Literature"; "Feminist Literary Theory"; and similar foci.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 391. Topics In Film History. (M) Benjamin Franklin Seminar.

This course explores an aspect of Film History intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 392. (AFRC392, ARTH389, CIMS392, COML391, SLAV392) Topics In Film Studies. (M) Benjamin Franklin Seminar.

This course explores an aspect of Film Studies intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 393. (AFST393, COML392, GSWS393, SAST323, SAST693) Topics In Postcolonial Literature. (M) Benjamin Franklin Seminar.

This course explores an aspect of Postcolonial literature intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 394. (CLST396, COML383, PHIL294, ROML390) Topics In Literary Theory. (M) [Formerly ENGL 304] Benjamin Franklin Seminar.

This course explores an aspect of literary theory intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 395. (COML395) Topics In Cultural Studies. (M) Benjamin Franklin Seminar.

This course explores an aspect of cultural studies intensively; specific course topics vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

Graduate-Level Courses 500-598

See English Department website for current descriptions: www.english.upenn.edu

SM 500. Paleography. (M)

A survey of the major medieval scripts, from Roman Capitals to Elizabethan Secretary Hands, with special focus on the study of Latin and vernacular manuscripts from the 12th-15th centuries and the aids needed to recover, evaluate, transcribe, and edit them. Requirements: weekly transcription, a midterm exam, and a formal description of a manuscript book in one of the Philadelphia-area libraries.

See the English Department's website at www.english.upenn.edu for a description of current offerings.

SM 501. (COML502, GRMN510, HIST590) Introduction to Old English Language and Literature. (M)

This is an accelerated study of the basic language of Anglo-Saxon England, together with a critical reading of a variety of texts, both prose and poetry.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 504. History of the English Language. (M)

An introduction to the methods of historical linguistics through a study of English from its prehistoric origins to the present day.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 505. (ARTH506, CIMS505, COML504) Electronic Literary Studies Proseminar. (C)

This course is designed to introduce advanced undergraduate and graduate students to the range of new opportunities for literary research afforded by recent technological innovation.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 506. Beowulf. (M) Prerequisite(s): ENGL 501 or its equivalent.

The primary focus of this course is a thorough reading of BEOWULF in the original; we will use the edition by F. Klaeber. In addition to the close textual and critical study of the text, we will attempt to reconstruct, through reference to related Anglo Saxon history, literature and

learning, the world of ideas and beliefs which gave rise to the poem.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 507. Introduction to Middle English. (M)

The course aims at giving the student a wide reading experience in Middle English literature (1100-1400, exclusive of Chaucer). It will consider the main literary genres, such as romance, debate, saint's legend, allegory, and lyric prose, among others.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 523. Medieval Drama. (M)

A study of the development of medieval drama from its beginnings to the late fifteenth century. The course begins with the Latin liturgical drama, considers important early plays in French and German, and then concentrates on the English Corpus Christi cycles and morality plays.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 524. (CLST618, COML601) Topics Medieval Studies. (M)

This course covers topics in Medieval literature. Its emphasis varies with instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 525. (COML522, GSWS524) Chaucer. (M)

An advanced introduction to Chaucer's poetry and Chaucer criticism. Reading and discussion of the dream visions, Troilus and Criseyde, and selections from Canterbury Tales, from the viewpoint of Chaucer's development as a narrative artist.

SM 531. (COML533, ITAL531) Renaissance Poetry. (M)

An advanced introduction to Renaissance poetry, offering varying emphases, but usually involving some consideration of Shakespeare's sonnets and of the poetry of Ben Jonson, John Donne, and Andrew Marvell.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 534. Jacobean Drama. (M)

An introductory survey of Jacobean drama, usually including some plays by Jonson,

Chapman, Webster, and Beaumont and Fletcher.

See the English Department's website at www.english.upenn.edu for a complete description of the current's offerings.

SM 535. (COML543) Shakespeare. (M)

Readings in the work of Shakespeare and other writers of the period. Specific texts vary with instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 537. Renaissance Epic. (M)

An introduction to the practice and theory of epic in the early modern period. Specific texts vary with instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 538. (COML546, GSWS538) Major Renaissance Writers. (M)

This is a monographic course, which may be on Spenser, Milton, or other major figures of the period.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 539. (COML687, SPAN687) Spenser. (M)

A reading of *THE FAERIE QUEENE* with special reference to the irreducibility of its allegory to modern critical methodology, and to its political siting within Spenser's career, as well as within late Elizabethan culture.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 540. (ITAL540) Topics in 18th Century British Literature. (M)

This course covers topics in 18th Century British literature. Its emphasis varies with instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 541. Eighteenth-Century Poetry. (M)

An introductory seminar in 18th-Century poetry. Specific texts vary with instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 543. Introduction to Eighteenth-Century Literature. (M)

Usually offered as a survey of philosophic and political ideas, artistic conventions, and

texts from 1690 to 1800. Typical readings might be in Swift, Pope, Gay, Boswell, Johnson, Burke, Gibbon, Chatterton, and Blake. The course has also been offered in recent years as a close study of a particular theme or problem in the 18th Century, such as that of seduction.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 544. (GSWS544) Richardson.

Careful examination of the work of the most influential European novelist of the eighteenth century. Our primary focus will be on Richardson's three novels, *PAMELA* (parts one and two), *CLARISSA*, and primary materials (especially letters), evidence of Richardson's collaborative relationships with his readers (especially Aaron Hill and Lady Bradshaigh), the significant revisions he made to his novels over the years, and the important cultural criticism that has emerged around his work over the past fifteen years.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 545. (FREN560) Eighteenth-Century Novel. (M)

A survey of the major novelists of the period, often beginning with Defoe and a few of the writers of amatory fiction in the early decades of the century and then moving on to representative examples of the celebrated novels by Richardson, Fielding, and others of the mid-century and after.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 546. (COML546, FREN537, GSWS536, HIST537) The Nove and Marriage. (M)

A survey of the significant subgenres of English prose fiction from the late Renaissance to Defoe. We will study such manifestations of prose fiction as the picaresque (with a glance at the tradition in Spain, Germany, and France), the romance (from Sidney to Lyly to Congreve and Behn, with consideration of French influence in the later seventeenth century), the fictions of travel (Hakluyt, Defoe, Swift), religious fiction (Bunyan and his successors), and the achievement of England's first major novelist, Defoe.

SM 548. English Literature and Culture, 1650-1725. (M)

English 548, with its companion, English 549, studies the literature of this period in the context of the artistic and cultural

milieu of the later seventeenth and early eighteenth centuries. Texts usually include works by Dryden, Rochester, Swift, Pope, and Defoe.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 550. (GRMN585) Topics in Romanticism. (M)

This class explores the cultural context in which the so-called Romantic Movement prospered, paying special attention to the relationship between the most notorious popular genres of the period (gothic fiction and drama) and the poetic production of both canonical and emerging poets.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 551. (COML551) British Romanticism: The First Generation. (M)

This course attempts a concentrated survey of the early years -- primarily the 1790's -- of the English Romantic period. Specific texts vary with instructor, but usually include works from Blake, Coleridge, and Wordsworth.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 552. Later British Romanticism. (M)

This is a companion course to English 551, and treats English Romanticism of the early 19th-century. Specific texts vary with instructor, but generally include works by Wordsworth, Byron, and the Shelleys.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 553. (COML554, GSWS553) British Women Writers. (M)

A study of British women writers, often focusing on the women authors who came into prominence between 1775 and 1825.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 555. Victorian Poetry. (M)

A study of Victorian Poetry, usually including poems by Tennyson, Browning, Arnold, Fitzgerald, Rossetti, Swinburne, and Morris.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 556. (CIMS556, COML557, GSW556) Topics in 19th-Century British Literature. (M)

This course covers topics in nineteenth-century British Literature, its specific emphasis varying with the instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 558. Topics in 19th-Century American Literature. (M)

This course covers topics in 19th-Century American literature, its specific emphasis varying with the instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 563. (ARTH584, COML537, GRMN541) Topics in 20th-Century British Literature. (M)

This course focuses on British modernism and/or postmodernism, with specific emphases determined by the instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 564. (COML564) British Modernism. (M)

An introduction to British Literary Modernism. Specific emphasis will depend on instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 567. Postmodern British Fiction. (M)

Either a survey of recent British writers (usually novelists) or a more focused exploration of a particular moment or issue within British postmodernism, for example that of the emergence of Black British writing.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 568. (ENGL768) Yeats & Joyce. (M)

This course counterpoints the artistic careers of William Butler Yeats and James Joyce. The central texts will be Yeats's *Collected Poems* and Joyce's *Dubliners*, and *Portrait of the Artist as a Young Man*.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 569. (AFRC569, CIMS501, COML569, COML599, GSW569) Topics in 20th-Century American Literature. (M)

This course covers topics in 20th-century literature, its emphasis varying with instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 570. (AFRC570, CIMS530, COML573, GSW570) African-American Literature. (M)

This course treats some important aspect of African-American literature and culture. Some recent versions of the course have focused on the emergence of African-American women writers, on the relation between African-American literature and cultural studies, and on the Harlem Renaissance.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 571. (CLST511, COML604, COML682, GRMN534, ROML512) Literary Theory. (M)

This course is usually offered in the fall as a general introduction to literary and cultural theory, covering a wide range of thinkers and approaches. It is also sometimes offered in the spring as a concentrated exploration of a particular problem or school of thought.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 572. (AFRC572, CIMS572, COML575, LALS702) Topics in African Literature. (M)

This course is based on a selection of representative texts written in English, as well as a few texts in English translation. It involves, a study of themes relating to social change and the persistence of cultural traditions, followed by an attempt at sketching the emergence of literary tradition by identifying some of the formal conventions of established writers in their use of old forms and experiments with new.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 573. (ARTH783, CIMS515, COML570, FREN573, GRMN573) Topics in Criticism and Theory. (M)

This course covers topics in literary criticism and theory.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 581. Oscar Wilde. (M)

This course focuses on the life and works of Oscar Wilde. An attempt will be made to recapture the 1890s context of his work by examining the history of criminal laws against homosexuality, film, the work of Wilde's contemporaries, and most centrally the works of Wilde himself.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 582. American Literature to 1810. (M)

In this course we shall examine the ways various voices--Puritan, Indian, Black, Female, Enlightened, Democratic--intersect with each other and with the landscape of America to produce the early literature(s) of America.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 583. Topics in 19th-Century American Literature. (M)

A survey of 19th-century American literature that usually focuses on a particular issue or problem, such as: gender and manhood; the politics of humor; representing the nation.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 584. (ARTH782, COML615, GRMN614, LARP770, URBS614) Environmental Imaginaries. (M)

Drawing on theories of worldmaking and ethnographic works on culture and environment, this seminar will examine the production of Cartesian-based environmental imaginaries and their alternatives across a range of genres and practices.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 585. Modern American Fiction. (M)

This course is a survey of major 20th-century American novels. The course may also ask how modernism differs from postmodernism and examine the revision of the American literary canon currently underway.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 587. Major American Modernist. (M)

This course generally focuses on a single American modernist author, such as James, Faulkner, or Williams.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 588. (ARTH560, COML539, GRMN540, JWST540) American Literature, 1920-50. (M)

An intensive introduction to American literature in the Depression decade. Readings will include canonical and non-canonical texts.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 589. (COML577) Twentieth-Century American Poetry. (M)

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 590. (AFRC590, COML590, GRMN560, GSWS589, LALS590) Recent issues in Critical Theory. (M)

This course is a critical exploration of recent literary and cultural theory, usually focusing on one particular movement or school, such as phenomenology, psychoanalysis, the Frankfurt School, or deconstruction.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 591. (COML592, GRMN509, JWST509, YDSH509) Modernism. (M)

This course can take up any issue in modernism, but has usually focused on American modernists. One recent version of the course treated the work of William Carlos Williams; another dealt with the relations between modernism, mass culture, and such quintessentially "modern" experiences as assembly-line production and "urban shock".

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 592. (CIMS592, COML581, COML592, HIST680) 20th-Century Literature and Theory. (M)

This course treats some aspect of literary and cultural politics in the 20th-Century with emphasis varying by instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 595. (AFRC594, AFST593, CIMS595) Post-Colonial Literature. (M)

This course covers topics in Post-Colonial literature with emphasis determined by the instructor. The primary focus will be on novels that have been adapted to film.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 597. (COML597) Modern Drama. (M)

This course will survey several basic approaches to analyzing dramatic literature and the theatre. The dramatic event will be broken into each of its Aristotelian components for separate attention and analysis: Action (plot), Character, Language, Thought, Music and Spectacle. Several approaches to analysing the dramatic text will be studied: phenomenological, social-psychological, semiotic, and others.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

700-Level Seminars Open Only to Graduate Students**SM 701. Piers Plowman. (M)**

This course takes the great kaleidoscopic poem *Piers Plowman* as its ostensible subject and point of departure for thinking about the literary cultures in the late fourteenth and early fifteenth century, as well as their continuity with older and indeed later literary and intellectual discourses.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 702. Beowulf. (M)

A seminar on the Anglo-Saxon poem *Beowulf* in the original, with special attention to its poetic style and the oral tradition to which it belongs.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 705. (COML526, COML606, COML705, GREK602, SLAV526) Interdisciplinary Approaches to Literature. (M)

This course will explore one or more interdisciplinary approaches to literature. Literary relationships to science, art, or music may provide the focus.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 706. Old English. (M)

Prerequisite(s): At least one semester of Old English or the equivalent.

Readings selected from the following areas: Wisdom literature, riddles, Solomon and Saturn; the nature of the transition from late Old English to Early Middle English Poetry; religious poetry.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 707. (CLST530, COML530) Orality and Literacy. (M)

Major lines of study of the subject of literacy are traceable in at least three disciplines: history of Western literature (especially classical and medieval studies), anthropology, and ethnography of education, including education development in the Third World and psychological and developmental education theory and practice. The linkages between oral and literary communicative modes in different cultures are studied, from a folklorist's viewpoint. The overall task of the course is not to isolate topics of narrowly defined folkloric interest in the broad field of literacy, but to integrate and critique the diverse approaches to literacy as a communicative mode or modes, from the point of view of folklore as a discipline.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 715. (CLST610, CLST630, COML631, COML714, FREN536) Middle English Literature. (M)

This seminar will study a number of selected Middle English texts in depth. Attention will be paid to the textual transmission, sources, language, genre, and structure of the works. Larger issues, such as the influence of literary conventions (for example, "courtly love"), medieval rhetoric, or medieval allegory will be explored as the chosen texts may require.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 725. (COML725) Topics in Chaucer. (M)

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 729. English Humanism. (M)

An examination of the politics and poetics of English humanism in the sixteenth and early seventeenth centuries. In particular, we will be measuring the political versatility of humanist discourse, which could construct a stance of resistance,

underwrite unseemly ambition, or bolster a traditional vision of order.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 730. (COML730, FREN654, GRMN665) Topics in 16th-Century History and Culture. (M)

This is an advanced course treating topics in 16th Century history and culture particular emphasis varying with instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 731. Renaissance Poetry. (M)

An advanced seminar in English poetry of the early modern period.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 734. (COML734) Renaissance Drama. (M)

This is an advanced course in Renaissance drama which will include plays by non-Shakespearean dramatists such as Marlowe, Jonson, and Middleton.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 735. (COML637, GSWS735) The Age of Shakespeare. (M)

An advanced seminar, usually focused on Shakespeare, treating the literature and culture of the late 16th- and early 17th-centuries.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 736. (COML736) Renaissance Studies. (M)

This is an advanced topics course treating some important issue in contemporary Renaissance studies.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 739. Milton. (M)

An examination of Milton's major poetry and prose with some emphasis on the social and political context of his work.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 741. Early 18th-Century Poetry and Poetics. (M)

This is an advanced course in British poetry and poetics of the first half of the 18th-Century.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 742. Late 18th-Century Poetry and Poetics. (M)

This is an advanced course in British poetry and poetics of the second half of the 18th-Century.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 745. Restoration and 18th-Century Fiction. (M)

This is an advanced course in the fiction of the Restoration and the 18th-Century, the period of "The rise of the novel".

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 748. (COML620, FREN660, NELC781) Semester in 18th Century Literature. (M)

This course varies in its emphases, but in recent years has explored the theory of narrative both from the point of view of eighteenth-century novelists and thinkers as well as from the perspective of contemporary theory. Specific attention is paid to issues of class, gender, and ideology.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 750. (COML750, GSWS750) Romanticism. (M) 700-Level Seminars, open only to Graduate Students in English.

This course is an advanced seminar on writings of the Romantic period, not restricted to English Romanticism.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 751. (GSWS751) British Women Poets. (M)

An advanced seminar in British poetry by women. This course has generally focused on the period from 1770-1830 when more than 300 women published at least one volume of poetry.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 752. English Romanticism. (M)

An advanced seminar on English Romanticism, usually but not always focusing on poetry.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 753. Victorian British Literature. (M)

An advanced seminar treating some topics in Victorian British Literature, usually focusing on non-fiction or on poetry.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 754. (COML755) Victorian Fiction. (M)

An advanced seminar in Victorian fiction.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 755. Literature of the Fin de Siecle. (M)

This course treats pre-Raphaelitism, Aestheticism, Decadence, New Woman novels, or some combination of these late-Victorian cultural developments.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 756. Victorian Poetry and Poetics. (M)

Close readings in both the poetry and the critical statements of the period, in an attempt to define the "inter-period" between Romantic and High Victorian poetry. Emphasis on the early careers of Tennyson, Browning, Arnold, and Clough. Attention will be given to the nature and role of the poet, the changing functions of poetry, Aestheticism, Symbolism, and Modernism.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 758. Victorian Culture. (M)

An advanced seminar treating 19th-Century British culture from an interdisciplinary perspective.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 760. (CIMS600) Topics in the Novel. (M)

A study of the literary and cultural self-presentations of a decade obsessed by its own momentousness as the end of a century and even, perhaps, the end of Time. The class examines writers' new pride in

decadence, the primacy of termination and death, and the impact of the women's movement on fictions, art, poetry, and theater of the 1890's.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 761. (COML761) British Modernism. (M)

This course treats one or more of the strains of British modernism in fiction, poetry, or the arts.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 765. (COML766, COMM847, SAST644) Topics in 20th-Century Literature. (M)

An advanced seminar treating a specific topic or issue in 20th-Century Literature and Culture.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 768. (ENGL568) Joyce. (M)

The specific focus within Joyce's oeuvre varies from year to year, but generally this course covers much of his writing up to *Finnegans Wake*.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 769. (COML769, GSWS769, NELC783, PSCI683, SAST769) Feminist Theory. (M)

Specific topic varies. The seminar will bring together the study of early modern English literature and culture with histories and theories of gender, sexuality and race. Contact with 'the East' (Turkey, the Moluccas, North Africa and India) and the West (the Americas and the Caribbean) reshaped attitudes to identity and desire. How does this history allow us to understand, and often interrogate, modern theories of desire and difference? Conversely, how do postcolonial and other contemporary perspectives allow us to re-read this past?

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 770. (AFRC770, AFRC834, ANTH834, COML773) Afro-American Literature. (M)

An advanced seminar in African-American literature and culture.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 771. (COML772, LAW 913) Textual Production. (M)

This course is based on library work and is intended as a practical introduction to graduate research. It addresses questions of the history of the book, of print culture, and of such categories as "work," "character," and "author," as well as of gender and sexuality, through a detailed study of the (re)production of Shakespearean texts from the seventeenth to the twentieth century.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 773. (AFRC773, COML767, GSWS773) Modernism. (M)

An interdisciplinary and international examination of modernism, usually treating European as well as British and American modernists.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 774. (COML622, SAST774) Postmodernism. (M)

An advanced seminar on postmodernist culture. Recently offered as a study of relationship between poetry and theory in contemporary culture, with readings in poststructuralist, feminist, marxist, and postcolonial theory and in poets of the Black Mountain and Language groups.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 775. (AFRC701, AFRC708, AFST775, COML700, COML708) African Literature. (M)

An advanced seminar in anglophone African literature, possibly including a few works in translation.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 776. (COML607) Topics in 20th-Century Drama. (M)

Sometimes taught as a survey of modern and contemporary drama, this course can also focus on a particular issue such as the politics of Western theatre, gender and performativity, or postmodernity in the dramatic arts.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 777. Media Studies. (M)

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 778. (ARTH794, ARTH796, CIMS796, COML778, COML787) 20th-Century Aesthetics. (M)

This course explores notions that have conditioned 20th century attitudes toward beauty among them ornament, form, fetish, the artifact "women", the moves to 20th century fiction, art manifestos, theory, and such phenomena as beauty contests and art adjudications.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 781. (COML771) Earliest American Literature. (M)

The earliest American literature predates America and rather than the unfolding of the new world, its major interest is the expanding of the old. In such texts as those compiled by Hakluyt and Purchas, in Thomas Harriot's *Briefe and True Report of the New Found Land of Virginia*, and others, we will trace an emerging American culture that is not yet "American."

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 783. Major American Author. (M)

A seminar treating any one of the major American Writers. Past versions have focused on Melville, Whitman, Twain, James, Pound, Eliot, and others.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 785. American Women Writers. (M)

This course is sometimes taught as an advanced survey of American women writers, but may also focus on a particular writer or group of writers, or on gender issues in American Literature and culture.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 788. Topics in American Poetry. (M)

An advanced seminar in American poetry. Specific emphasis varies with instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 790. (COML790, GRMN690, GSWS790) Recent Issues in Critical Theory. (M)

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 795. (COML795, ITAL630) Topics in Poetics. (M)

Topics in poetics will vary in its emphasis depending on the instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 797. (ARTH594, ARTH793, COML594, COML791, SAST651) Topics in 20th-Century Culture. (M)

Usually focusing on non-fictional texts, this course varies in its emphasis depending on the instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 799. (AFRC799, COML798, GSWS799, MUSC735) Topics in American Literature. (M)

An advanced topics course in American literature, with the curriculum fixed by the instructor. Recently offered with a focus on American Literature of Social Action and Social Vision.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

800-Level For the Preparation of the Ph.D Field Exam and Dissertation Proposal**SM 850. Field List. (C)**

Students work with an adviser to focus the area of their dissertation research. They

take an examination on the field in the Spring and develop a dissertation proposal.

Independent Study 998-999

998. Independent Study. (S) Limited to 1 CU.

Open to students who apply to the graduate chair with a written study proposal approved by the advisor. The minimum requirement is a long paper. Limited to 1 CU.

999. Independent Reading. (C)

Open only to candidates who have completed two semesters of graduate work.

BIostatistics AND EPIDEMIOLOGY (MD) {EPID}

632. STAT METH/CATEG SURV ANA. (B)

754. Advanced Survival Analysis. (A)

Sharon X. Xie and Kevin Lynch.
Prerequisite(s): Prerequisites: BSTA 622 (may be taken concurrently); permission of instructor.

This advanced survival analysis course will cover statistical theory in counting processes, large sample theory using martingales, and other state of the art theoretical concepts useful in modern survival analysis research. Examples in deriving rank-based tests and Cox regression models as well as their asymptotic properties will be demonstrated using these theoretical concepts. Additional potential topics may include competing risk, recurrent event analysis, multivariate failure time analysis, joint modeling of survival and longitudinal data, sample size calculations, multistate models, and complex sampling schemes involving failure time data.

600. Data Science for Biomedical Informatics. Himes.

Data science refers broadly to using statistics and informatics techniques to gain insights from large datasets. Biomedical informatics refers to a range of disciplines that use computational approaches to analyze biomedical data to answer pre-specified questions as well as to discover novel hypotheses. In this course, we will use R and other freely available software to learn fundamental data science applied to a range of biomedical informatics topics, including those making use of health and genomic data. After completing this course, students will be able to retrieve and clean data, perform exploratory analyses, build models to answer scientific questions, and present visually appealing results to accompany data analyses; be familiar with various biomedical data types and resources related to them; and know how to create reproducible and easily shareable results with R and github.

624. Methods in PCOR. (B) Gelfand.

Prerequisite(s): Permission of instructor. The goal of this course is to provide a broad overview of methods used in patient centered outcomes research (PCOR). Expert faculty will lecture on topics such as standards for research questions, patient centeredness, systematic reviews, causal inference, heterogeneity of treatment effect handling missing data, data networks, Bayesian designs, data registries, and diagnostic tests. Topics may also include advanced observational study design, statistical methods for observational studies, health status/quality of life as applied to PCOR and case studies of patient engagement.

625. Advanced Biostatistical Methods for Multivariable Prediction Models. (B) Gimotty.

Prerequisite(s): Completion of EPID526, EPID527 and either EPID510 or EPID623 or equivalent preparation in either categorical analysis or survival analysis. Working knowledge of either Stata, SAS or R to fit regression, logistic regression and/or Cox regression models. Permission of course director for students outside of School of Medicine graduate programs.

This course is an introduction to statistical methods that can be used to evaluate biomarker prognostic studies and multivariate prediction models. It is designed for advanced MS and PhD-level students in epidemiology and related fields (nursing, health policy, social work, demography). Topics will include biostatistical evaluation of biomarkers, predictive models based on various regression modeling strategies and classification trees, assessing the predictive ability of a model; internal and external validation of models; and updating prognostic models with new variables or for use in different populations. Students will learn about the statistical methods that are required by current reporting guidelines for biomarker prognostic studies or the reporting guidelines for multivariable prediction models.

635. DATABASE BIOMED RESEARCH. (A) Holmes.

This course is intended to provide in-depth, practical exposure to the design, implementation, and use of databases in biomedical research. This course is intended to provide students with the skills needed to design and conduct a research project using primary and secondary data. Topics to be covered include: database architectures, data modeling approaches, data normalization, database implementation, client-server databases,

concurrency, validation, Structured-Query Language (SQL) programming, reporting, maintenance, and security. All examples will use problems or data from biomedical domains. MySQL will be used as the database platform for the course, although the principles apply generally to biomedical research and other relational databases.

672. This course is designed to teach epidemiology students the statistical principles of analysis specific to pharmacoepidemiology study designs including the use of propensity scores, inverse probability weighting, instrumental variables and time varying covariates. Each of the twelve sessions includes both a lecture component and laboratory component. Students will learn the statistical principles and then apply them to example study data sets. (L)

Ogdie-Beatty, Stephens-Sheilds.
Prerequisite(s): EPID 526 and EPID 527; permission of the instructor(s).

BIostatistics (BSTA)

509. (EPID801) Introduction to Epidemiology. Yu-Xiao Yang.

511. Biostatistics in Practice I. (A)

Kathleen Propert. Prerequisite(s): Open to Biostatistics student only.

550. (PSYC611, STAT500) App Reg and Anal of Var.

620. Probability I. (A) Pamela Shaw.
Prerequisite(s): Two semesters of calculus (through multivariable calculus), linear algebra; permission from the instructor.

This course covers Elements of (non-measure theoretic) probability necessary for the further study of statistics and biostatistics. Topics include set theory, axioms of probability, counting arguments, conditional probability, random variables and distributions, expectations, generating functions, families of distributions, joint and marginal distributions, hierarchical models, covariance and correlation, random sampling, sampling properties of statistics, modes of convergence, and random number generation.

621. Statistical Inference I. (B) Faculty.

Prerequisite(s): BSTA 620.

Statistical inference including estimation, confidence intervals, hypothesis tests and non-parametric methods.

622. Statistical Inference II. (A) Jinbo Chen & Yong Chen. Prerequisite(s): BSTA 621; permission of instructor.

This This class will cover the fundamental concepts of statistical inference. Topics include sufficiency, consistency, finding and evaluating point estimators, finding and evaluating interval estimators, hypothesis testing, and asymptotic evaluations for point and interval estimation.

630. Statistical Methods for Categorical and Survival Data. (A)

Dawei Xie and Yenchih Jesse Hsu. Prerequisite(s): Multivariable calculus and linear algebra, BSTA 620 (may be taken concurrently); permission of instructor.

This first course in statistical methods for data analysis is aimed at first-year Biostatistics students. It focuses on the analysis of continuous data. Topics include descriptive statistics (measures of central tendency and dispersion, shapes of distributions, graphical representations of distributions, transformations, and testing for goodness of fit); populations and sampling (hypotheses of differences and equivalence, statistical errors); one- and two-sample t tests; analysis of variance; correlation; nonparametric tests on means and correlations; estimation (confidence intervals and robust methods); categorical data analysis (proportions; statistics and test for comparing proportions; test for matched samples; study design); and regression modeling (simple linear regression, multiple regression, model fitting and testing, partial correlation, residuals, multicollinearity). Examples of medical and biologic data will be used throughout the course, and use of computer software demonstrated.

651. Introduction to Linear Models and Generalized Linear Models. (B)

Tu. Prerequisite(s): linear algebra, calculus, BSTA 630, BSTA 620, BSTA 621 (may be taken concurrently).

This course extends the content on linear models in BSTA 630 and BSTA 631 to more advanced concepts and applications of linear models. Topics include the matrix approach to linear models including regression and analysis of variance, general linear hypothesis, estimability, polynomial, piecewise, ridge, and weighted regression, regression and collinearity diagnostics, multiple comparisons, fitting strategies, simple experimental designs (block designs, split plot), random effects models, Best Linear Unbiased Prediction. In addition, generalized linear models will be introduced with emphasis on the binomial, logit and Poisson log-linear models.

Applications of methods to example data sets will be emphasized.

690. Consulting Laboratory I. (C)

Faculty. Prerequisite(s): BSTA 630.

Participation in the consulting laboratory is a requirement for both the Master's and Ph.D. degrees. This course covers general principles of statistical consulting and statistical consulting experience. There is training on statistical programming, preparation of reports, presentations, and the communication aspects of consulting. Each student will be expected to join one of several project teams consisting of faculty, research staff, and graduate student consultants; attend meetings along with the project team and associated investigators; participate in all or part of the design, management, analysis and reporting stages of a project; and gain valuable experience in working with actual research projects.

752. Categorical Data Analysis II.

774. Statistical Methods for Evaluating Diagnostic Tests. (A)

Gimotty. Prerequisite(s): BSTA 510, BSTA 630, BSTA 631 or equivalent; permission of instructor.

This course will cover statistical methodology for evaluating diagnostic tests. The topics will include: estimation of ROC curves, comparing multiple diagnostic tests, developing diagnostic tests using predictive models, measurement error effects on diagnostic tests, random effects models for multi-reader studies, verification bias in disease classification, methods for time-dependent disease classifications, study design issues, related software, and meta-analyses for diagnostic test data.

820. (STAT972) Statistical Inference III. (B)

Faculty. Prerequisite(s): To be advised.

Statistical inference including estimation, confidence intervals, hypothesis tests and non-parametric methods.

EPIDEMIOLOGY (EPID)

Contact the department for information on courses offered in Epidemiology.

510. (BSTA511) Introductory Epidemiology. (L)

Lewis. Prerequisite(s): Permission of Instructor.

This course is a series of lectures and workshops, designed to teach basic principles of epidemiologic research design. The course provides an overview of the types of research questions that can be addressed by epidemiologic

methods. Topics covered include: definitions of epidemiology; measures of disease frequency; measures of effect and association; epidemiologic study designs, both experimental and non-experimental; and an overview of analysis of epidemiologic studies.

516. Disease Ecology. Levy, Smith.

The transmission of infectious diseases is a complex and ever-changing process, and the measures we have to protect ourselves against pathogens-vaccines, antibiotics, bed nets-can have equally complex and unpredictable outcomes. The aim of disease ecology is to understand pathogens and their hosts as interacting populations and to use such understanding to design rational strategies to curb or eliminate disease transmission.

A disproportionate number of emerging infectious diseases and recent disease outbreaks in the United States and elsewhere have shared a common characteristic-they affect veterinary as well as human populations. Many are also vector-borne, passing between different species of hosts through insects and other invertebrates. In some cases humans are only 'spillover hosts' whose infection is incidental to the transmission cycle. Interdisciplinary approaches are especially important to control such diseases. As a particular focus of the course, students will learn the tools needed for successful collaborations to address the growing problem of zoonotic and vector-borne diseases.

518. (PUBH517) Geography & Public Health. (B)

L/L 526. Biostatistics for Epidemiologic Methods I.

Bryan/Cucchiara. Prerequisite(s): Permission of Instructor. This course runs from mid Summer to mid Fall term. There is a corresponding lab.

The first half of this will cover graphical methods, probability, discrete and continuous distributions, estimation, confidence intervals, and one sample hypothesis testing. Emphasis is placed on understanding the proper application and interpretation of the methods. The second half of this course will cover two sample hypothesis testing, nonparametric techniques, sample size determination, correlation, regression, analysis of variance, and analysis of covariance. Emphasis is placed on understanding the proper application and underlying assumptions of the methods presented. Laboratory sessions focus on the use of the

STATA statistical package and applications to clinical data.

L/L 527. Biostatistics for Epidemiologic Methods II.

Landis, Shaw. This course runs from mid fall to mid spring term. There is a corresponding lab.

The first half of this covers concepts in biostatistics as applied to epidemiology, primarily categorical data analysis, analysis of case-control, cross-sectional, cohort studies, and clinical trials. Topics include simple analysis of epidemiologic measures of effect; stratified analysis; confounding; interaction, the use of matching, and sample size determination. The second half of this course covers concepts in biostatistics as applied to epidemiology, primarily multivariable models in epidemiology for analyzing case-control, cross-sectional, cohort studies, and clinical trials. Topics include logistic, conditional logistics, and Poisson regression methods; simple survival analyses including Cox regression. Emphasis is placed on understanding the proper application and underlying assumptions of the methods presented. Laboratory sessions focus on the use of the STATA statistical package and applications to clinical data.

532. Database Management for Clinical Epidemiology. (B) Holmes.

Prerequisite(s): Permission of Instructor.

This course provides students with an introduction to the techniques of database management as they apply to clinical research. Students learn how to design and implement computerized databases, perform basic query and reporting operations, migrate data between various file formats, prepare databases for statistical analysis, and perform quality assurance procedures. This course focuses on the practical issues of database management and is intended to support each student's planned research enterprise. Each class session will be preceded by a one-hour online lecture and brief self-assessment quiz to be completed prior to attending class. This lecture is intended to prepare students for the class for the week, which will be dedicated to practical experience in a laboratory setting.

542. Measurement of Health in Epidemiology. (A) Wiebe.

Prerequisite(s): Permission of course director. Introductory Epidemiology (EPID 510) and Biostatistics for Epidemiologic Methods I (EPID526) previously or concurrently.

Epidemiologic analyses involve three types of procedures: measuring variables (e.g. risk

factors), estimating population parameters (e.g. risk ratios), and testing statistical hypotheses. This course addresses the first of these procedures: measurement, which broadly encompasses the tasks involved in obtaining data, without which analyses cannot proceed. Course topics include: defining concepts of exposure, disease, and health; approaches to measuring exposure, which may be personal or environmental; approaches to measuring disease and health status; assessing the validity and reliability of measurement instruments; problems of misclassification of exposure status and disease status and problems of missing data; instrument (e.g. questionnaire) development; and qualitative methods.

550. (HPR 550) Clinical Economics and Clinical Decision Making. (B)

Glick, Williams. Prerequisite(s): Permission of Instructor.

This course focuses on the application of decision analysis and economic analysis to clinical and policy research. The course begins with material about the selection, use, and analysis of diagnostic tests using two by two tables, likelihood ratios, and ROC curves. The course continues with the introduction of more general tools for decision analysis, including decision trees and other mathematical models. Special emphasis is placed on the assessment and use of utilities in these models. A major focus of the course is the application of economic principles to the evaluation of health outcomes. During seminars, students will carry out practical exercises that include problem solving, critically analyzing published articles, and learning to use computer software that facilitates decision and economic analyses.

SM 560. Issues in Research Protocol Development. (B) Restricted to MSCE degree students.

This course focuses on major issues in research protocol development, including methodological issues regarding different research designs, development of research questions, and plans for analysis. Each student will present his or her research proposal for open discussion during one of the sessions.

570. Critical Appraisal of the Medical Literature. (B) Restricted to MSCE degree students.

This course focuses on techniques for critical appraisal of the medical literature. Each student will be responsible for at least one critical appraisal session covering different epidemiologic topics.

575. Introduction to Genetic Epidemiology. (B) Devoto, Saleheen.

Prerequisite(s): Permission of Instructor.

Recent advances have made it feasible to incorporate data on potential genetic risk factors into traditional epidemiologic studies. Hence, there is an increasing need for epidemiologists to understand the genetic basis of disease, read, and interpret genetic studies, and incorporate the collection and analysis of genetic information into studies of disease etiology. The objectives of this course are to provide epidemiologists with an understanding of: basic genetics, the tools used by geneticists and genetic epidemiologists, and the integration of genetic data into traditional epidemiologic study designs. After completing the course, students will be able to read and interpret genetic studies. In addition, they will be able to design epidemiologic studies that incorporate genetic data collection and analysis.

580. (HPR 580) Outcomes Research. (A) Silber.

Prerequisite(s): EPID 526 or equivalent, EPID 527 or equivalent, Permission of Instructor.

This course is divided into two main parts. The first part addresses issues related to the measurement of quality in healthcare. Included is a review of the classical-structure-process-outcome quality paradigm. The paradigm's strengths and limitations are addressed. This part especially focuses on outcome measures of quality and examines the validity of alternative measures. The second part deals with observational, or quasi-experimental, research studies. It addresses the advantages and limitations of alternative designs, and covers the role of clinical risk adjustment in observational studies of medical interventions. It focuses on the problem of selection bias, and reviews recent methods for dealing with this bias, such as instrumental variables.

582. Systematic Review and Meta-Analysis. (A) Guevara, Umscheid.

Prerequisite(s): EPID 510, EPID 526 (may be taken concurrently).

This course will provide an introduction to the fundamentals of systematic reviews and meta-analysis. It will cover introductory principles of meta-analysis; protocol development; search strategies; data abstraction methods; quality assessment; meta-analytic methods; and applications of meta-analysis.

L/L 621. Longitudinal and Clustered Data in Epidemiologic Research. (A)

Localio. Prerequisite(s): Completion of EPID 526&527 or equivalent preparation in biostatistics, including generalized linear models. Completion of semester course in principles of epidemiology or equivalent. Good working knowledge of Stata and SAS and familiarity with principles of first-year calculus and matrix algebra. Permission of course director.

An introduction to the principles of and methods for longitudinal and clustered data analysis with special emphasis on clinical, epidemiologic, and public health applications. Designed for advanced MS and PhD-level students in epidemiology and related fields. Marginal and conditional methods for continuous and binary outcomes. Mixed effects and hierarchical models. Simulations for power calculations. Each student will be required to participate in 8 labs and complete associated problem sets. They may also use their own data to fulfill these requirements in part. Software will include Stata and R.

622. Applied Regression Models for Categorical Data. (A)

Troxel. Prerequisite(s): EPID 510, EPID 526. Offered first half of fall term.

This course will provide in-depth treatment of several topics in categorical data analysis. After a brief review of methods for contingency tables, we will introduce the idea of generalized linear models, and focus on two special cases: multiple logistic regression and loglinear models. Each topic will be presented in detail by stating the model and covering parameter estimation and interpretation, inference, model building, regression diagnostics and assessment of model fit. Finally, we will cover extensions to both models, including models for multinomial data, analysis of matched-pair data, and random effects models. Topics will be illustrated in class with examples, and we will discuss the use of STATA to conduct the analyses.

623. Applied Survival Analysis. (A)

Hwang. Prerequisite(s): EPID 510, EPID 526. Offered second half of fall term.

This course will focus on the specialized issues related to the analysis of survival or time-to-event data. The course begins by closely examining the features unique to survival data which distinguishes these data from other more familiar types. Topics include non-parametric survival analysis methods, common survival functions, parametric survival models, the proportional hazards model, and common model checking methods. All methods will

be illustrated by in class examples and homework sets.

630. (REG 630) Clinical Trials. (B)

Margolis. Prerequisite(s): EPID 510 or equivalent; EPID 526 or equivalent; permission of instructor.

This course is to serve as a general introduction to clinical trials, with emphasis on trial design issues. This is not a course on the biostatistics of clinical trials. It is expected that at the conclusion of the course, a student will be able to plan a clinical trial. Each class will consist of a two-hour lecture followed by a one hour discussion.

634. Clinical Trial Outcomes: Measurement, Analysis and Interpretation. (A)

Farrar. Prerequisite(s): EPID 510 or equivalent; permission of instructor.

This course is intended to teach students the skills necessary to select and/or design appropriate outcomes for a clinical trial. Students will focus on recent changes in our understanding of clinical trial outcome measurements, analyses, and interpretation for both subjective and objective phenomenon, such as adherence, use of multiple outcomes, and clinical importance. While design issues for clinical trials are the main focus, other types of clinical studies will be considered as appropriate. Student will be expected to learn about the problems inherent in the design of outcome measures of health and how to apply different epidemiologic and biostatistical concepts toward a solution. It is expected that at the conclusion of the course, students will be able to plan a clinical trial with a valid, responsive, and interpretable outcome.

636. Epidemiological Methods in Acute Care. (M)

This is an advanced course addressing epidemiological issues as they apply to important clinical topics in acute care, including emergency, hospital, and critical care medicine. Lectures and discussions will have two primary goals: 1) to explore epidemiologic methods specific to acute care settings (i.e., choice of outcomes, risk adjustment); and 2) to explore the epidemiology of particular diseases (e.g., sepsis, acute lung injury, hospital acquired infections) and research questions of current importance in these areas. This course will acquaint students with the classic literature in the field adult and pediatric urgent care, emergency medicine, and critical care epidemiology, teach advanced epidemiological principles using a problem-based approach, and

demonstrate the strengths and weaknesses of epidemiological research methodologies as they have been applied to acute care.

638. Topics in Clinical Trial Design and Analysis. (A)

Ellenberg. Prerequisite(s): EPID 630 or equivalent.

This course is intended to follow, and be complementary to EPID 630: Clinical Trials. It will build on the basic principles of design, conduct, and analysis introduced in that course and will go into more detail on particular approaches. Topics covered will include noninferiority trials, phase I designs, multi-stage and other adaptive designs, graphical data presentations and current ethical controversies in clinical trials.

640. Advanced Topics in Epidemiology. (B)

Kanetsky. Prerequisite(s): EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent; permission of instructor.

This course is designed to introduce students to advanced epidemiologic methods through a series of readings and discussions. The course aims to deepen the students' understanding of important concepts and controversies in contemporary epidemiology and to enhance their ability to think critically about empirical epidemiologic research. The course is intended for students who are already familiar with the fundamentals of epidemiology and biostatistics, and who wish to gain an understanding of the complex issues underlying epidemiologic study design and interpretation.

644. Cardiopulmonary Epidemiology. (L)

Kimmel. Prerequisite(s): EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent, and permission of instructor.

This is an advanced course that addresses epidemiological research issues as they apply to important clinical topics in cardiovascular and pulmonary medicine. Lectures and workshops are designed to acquaint students with the classic literature in the fields of cardiovascular and pulmonary epidemiology, to use a body of literature to demonstrate the strengths and weakness of epidemiological research designs as they have been applied to cardiovascular and pulmonary medicine to expose students to the range of topics studied to teach advanced epidemiological principles using a problem-based approach, and to stimulate students to develop independent research questions.

645. (BSTA645) Research Methods in Cancer Epidemiology. (L) Schmitz.

Prerequisite(s): EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent, and permission of instructor. Research in cancer etiology, prevention, treatment, and control includes a wide range of subject matter science, from the initial molecular changes which precede the development of cancer to issues of primary guidelines for cancer survivors. The course reviews the possible study designs applied to cancer etiology, prevention, treatment, and control. These include randomized controlled trials and multiple types of observational studies (cohort, case-control, cross-sectional). Other topics will include causal inference, bias, and effect modification.

646. Reproductive EPI. (J) Barhart.

This is an advanced course that addresses epidemiological research issues as they apply to important clinical topics in obstetrics and gynecology and related clinical disciplines. Lectures and workshops are designed to acquaint students with seminal issues in the field of reproductive epidemiology, to use a body of literature to demonstrate the strengths and weaknesses of epidemiological research designs as they have been applied to obstetrics and gynecology and related clinical disciplines, to expose students to the range of topics studied, to teach advanced epidemiologic principles using a problem-based approach, and to stimulate students interested in reproductive epidemiology to develop independent research questions.

648. Introduction to Pharmacoepidemiology I. (L) Strom.

Prerequisite(s): Permission of Instructor. This is an advanced seminar course introducing students to the methods and approaches used in the field of pharmacoepidemiology. Topics range from an introduction to the utility of the field; to an overview of the different automated databases frequently used in pharmacoepidemiology research; selected novel applications of pharmacoepidemiology; and advanced epidemiologic methods used within pharmacoepidemiology.

649. Introduction to Pharmacoepidemiology II. (L) Strom.

Prerequisite(s): Permission of Instructor. These seminars serve as follow-up to Topics in Pharmacoepidemiology I, continuing with topics presented in that course.

650. Introduction to Pharmacoepidemiology III. (L) Strom.

Prerequisite(s): Permission of Instructor. These seminars serve as follow-up to Topics in Pharmacoepidemiology II, continuing with topics presented in that course.

652. Renal and Urologic Epidemiology. (L) Feldman, Anderson, Yang.

Prerequisite(s): EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent, and permission of instructor. The objective of this course is to prepare students to function as effective, independent researchers in the fields of renal and urologic epidemiology by providing the students an understanding of how epidemiologic research can and has advanced the knowledge of diseases in treatments of renal and urologic medicine. The structure of the course consists of a lecture series, workshops, and student presentations.

656. Research Methods in Infectious Diseases Epidemiology. (L)

Gross, Lautenbach. Prerequisite(s): EPID 510 or equivalent, EPID 526 or equivalent, a course that covers logistical regression such as EPID 527 or equivalent, and permission of instructor(s). This is an advanced course addressing epidemiological issues as they apply to important clinical topics in infectious diseases. Lectures and discussions will serve two primary goals: 1) to explore epidemiologic methods specific to infectious diseases (e.g. adherence to therapy) or which have important applications to infectious diseases (e.g. molecular epidemiology); and 2) to explore the epidemiology of particular infectious diseases or syndromes (e.g. HIV). This course will acquaint students with the classic literature in the field of infectious diseases epidemiology, teach advanced epidemiological principles using a problem-based approach, and demonstrate the strengths and weaknesses of research methodologies as they have been applied to infectious diseases.

658. Gastroenterology EPI. (K) Yang.

Prerequisite(s): EPID 510 or equivalent, EPID 526 or equivalent, EPID 527 or equivalent, and permission of instructor. This course provides an in-depth presentation of advanced methodological issues in conducting clinical epidemiological research in the field of gastroenterology.

664. Methods in Neurologic Clinical Epidemiology. (J) Balcer, Farrar.

Prerequisite(s): Permission of Instructor. This course will introduce students to methods and study design principles that are specific or unique to clinical research and trials in neurology, child neurology, neuro-ophthalmology, neurosurgery, and related fields.

666. Pharmacoepidemiology Research Methods. (B) Hennessy.

Prerequisite(s): EPID 510 or equivalent, EPID 526 or equivalent, a course that covers logistical regression such as EPID 527 or equivalent, and permission of instructor(s).

The purpose of this course is to explore and integrate concepts and considerations that are key to the conduct of pharmacoepidemiologic research. The format will be a mixture of seminar, instructor-led discussion, student-led discussion, and student presentations. Papers from the applied and methods literature will be used to illustrate concepts and as springboards for discussion. Topics covered include use of automated databases, pharmacogenomics, and approaches to addressing confounding.

675. Advanced Methods for Analysis of Complex Genetic Traits. (M)

Rebbeck, Devoto. Prerequisite(s): Permission of Instructor(s). The recent explosion in the availability of molecular level data coupled with technological advancements allowing for large-scale sequencing creates an exciting opportunity to tailor treatment decisions to the specific genetic characteristics of a patient. Epidemiologic studies will provide the tools to draw from this array of molecular data as well as well-established environmental risk factors to predict disease outcomes. However, understanding analytic methods for characterizing the complex interactions among genetic polymorphisms, biomarkers, environmental factors, and disease outcomes is imperative to draw meaningful and relevant conclusions from these studies. Through this course, students will understand and present advanced statistical methods and how they can be applied to the study of complex genetic traits.

690. Empirical Bioethics. (J)

Halpern, Karlawish. Prerequisite(s): Permission of Instructor. Solutions to many of the most pressing problems in modern bioethics require empirically testing assumptions and theories about human behaviors and attitudes. This course will use papers from

the primary literature to teach students to understand and use the many methods that have been or could be employed to address questions lying at the intersection of ethics and clinical research. In addition to participating in weekly discussions of these topical and methodological papers, students will be expected to develop and present a protocol for research designed to explore ethical dilemmas within their own disciplines.

SM 700. Doctoral Seminar in Epidemiology. Levy. Prerequisite(s): Permission of Instructor. Restricted to Epidemiology Doctoral Students.

The course is intended to meet the needs of PhD students over the entire program from the coursework phase through the dissertation defense, and is intended to optimize cross-fertilization between the students at all phases of their program.

SM 714. Grant Writing/Review. (L) Farrar. Prerequisite(s): EPID510, EPID526, EPID560, and EPID570 or Permission of Instructor.

This course is designed to provide background, and guidance on writing and submitting NIH grants. Students will submit a mini proposal at the beginning of the term. Each proposal will be reviewed by a group of students from the class and scores will be given. The final project will be a full NIH proposal ready for submission.

L/L 721. Longitudinal and Clustered Data in Epidemiologic Research-Advanced Topics. (M) Localio, Joffe. Prerequisite(s): EPID621 or a class in longitudinal data at the graduate level, Familiarity with principles of first-year calculus and matrix algebra, Good working knowledge of Stata (or SAS) and access to Stata v10 license (intercooled or SE or MP), or to SAS v9.2 license, Permission of instructor.

Advanced methods for longitudinal and clustered data analysis with special

emphasis on formal principles of causal inference, analysis of complex samples from surveys, use of Monte Carlo methods of estimation, and methods for adjusting for missing data and dropout, with applications in epidemiology, social sciences, and public health. Designed for advanced MS and PhD-level students in epidemiology and related fields. Each student will be required to participate in 6 labs and to complete the associated problem sets and exercises. Students must satisfy part of this requirement by working on their own datasets.

805. Practicum In Applied Clinical Research Methods.

813. Biostatistics in Practice Lab. Faculty.

SM 816. Economic Evaluation of Medical Therapies. Faculty.

817. Fund of Pharmacoepi.

848. Topics in Pharmacoepi I.

866. Pharmacoepidemiology Res.

FINANCE (WH) {FNCE}

100. Corporate Finance. (C)

Prerequisite(s): ECON 10 or ECON 001 or ECON 002, MATH 104, ACCT 101 and STAT 101. Acct 101 and Stat 101 may be taken concurrently.

This course provides an introduction to the theory, the methods, and the concerns of corporate finance. The concepts developed in FNCE 100 form the foundation for all elective finance courses. The main topics include: 1) the time value of money and capital budgeting techniques; 2) uncertainty and the trade-off between risk and return; 3) security market efficiency; 4) optimal capital structure, and 5) dividend policy decisions. During the fall semester there are honors sections of FNCE 100 offered. The seats in the honors sections are awarded through an application process. Please go to <https://fnce.wharton.upenn.edu/programs/course-applications/> for additional information.

101. Monetary Economics and the Global Economy. (C)

Prerequisite(s): ECON 10 or ECON 001 and ECON 002 and MATH 104. Students cannot receive credit for both FNCE 101 and ECON 102. WHARTON STUDENTS ARE REQUIRED TO TAKE FNCE101.

This is an intermediate-level course in macroeconomics and the global economy, including topics in monetary and international economics. The goal is to provide a unified framework for understanding macroeconomic events and policy, which govern the global economic environment of business. The course analyzes the determinants and behavior of employment, production, demand and profits; inflation, interest rates, asset prices, and wages; exchange rates and international flows of goods and assets; including the interaction of the real economy with monetary policy and the financial system. The analysis is applied to current events, both in the US and abroad. During the spring semester there are honors sections of FNCE 101 offered. The seats in the honors sections are awarded through an application process. Please go to <https://fnce.wharton.upenn.edu/programs/course-applications/> for additional information.

203. Advanced Corporate Finance.

(C) Prerequisite(s): FNCE 100, (FNCE 611), FNCE 101, (FNCE 613) STAT 101, and STAT 102. Professor Opp and Professor Galla do not require FNCE 101 as a prerequisite.

The objective of this course is to study the major decision-making areas of managerial finance and some selected topics in financial theory. The course reviews the theory and empirical evidence related to the investment and financing policies of the firm and attempts to develop decision-making ability in these areas. This course serves as an extension of FNCE 100 (FNCE 611). Some are as of financial management not covered in FNCE 100 are covered in FNCE 203. These may include leasing, mergers and acquisitions, corporate reorganizations, financial planning and working capital management, and some other selected topics. Other areas that are covered in FNCE 100 are covered more in depth and more rigorously in FNCE 203. These include investment decision making under uncertainty, cost of capital, capital structure, pricing of selected financial instruments and corporate liabilities, and dividend policy. During the Spring semester, Professor Opp does not allow students to take this course pass/fail.

205. Investment Management. (C)

Prerequisite(s): The prerequisites for Undergraduates are FNCE 100, and STAT 101-102 (STAT 102 may be taken concurrently with this course. Given that investment management requires one to analyze and deal effectively with uncertainty, a good grounding in statistics is essential, and familiarity with statistics should extend through multiple regression, covariance, and correlation.

This course studies the concepts and evidence relevant to the management of investment portfolios. Topics include diversification, asset allocation, portfolio optimization, factor models, the relation between risk and return, trading, passive (e.g., index-fund) and active (e.g., hedge-fund, long-short) strategies, mutual funds, performance evaluation, long-horizon investing and simulation. The course deals very little with individual security valuation and discretionary investing (i.e., "equity research" or "stock picking").

206. (FNCE717) Financial

Derivatives. (C) Prerequisite(s): The following introductory Finance and Statistics courses are recommended but not required. FNCE 101 and STAT 102 are recommended and can be taken concurrently.

The purpose of this course is to provide the student with the necessary skills to value and to employ options, futures, and related financial contracts. In order to provide a useful treatment of these topics in an environment that is changing rather rapidly, it is necessary to stress the fundamentals and to explore the topics at a technical level. The topics that will be covered include the valuation of futures contracts on stock indices, on commodities and Treasury instruments; the valuation of options; empirical evidence; strategies with respect to these assets; dynamic asset allocation strategies, of which portfolio insurance is an example; swaps; and the use (and misuse) of derivatives in the context of corporate applications. One-third of the course will be devoted to futures, a third to options, and a third to their applications. Many of the applications will be sprinkled along with the coverage of futures and options.

207. Corporate Valuation. (C)

Prerequisite(s): FNCE 100, (FNCE 611) ACCT 101, AND STAT 101 111 OR EQUIVALENT ACCT 101 RECOMMENDED.

The focus of this course is on the valuation of companies. Topics discussed include discounted cash flow techniques and valuation using alternative valuation techniques such as price multiples. Emphasis is on developing the required information for valuation from financial statements and other information sources.

208. International Corporate Finance.

(A) Prerequisite(s): A thorough knowledge of FNCE 100 (FNCE 611) is assumed.

Analyzes financial problems corporations face that result from operating in an international environment. Major topics include managing exchange risk through hedging and financing, measuring exchange rate exposure, calculating the cost of capital for foreign operations, assessment of sovereign risks, capital budgeting from a project and parent perspective, and international taxation.

209. (FNCE721, REAL209, REAL721) Real Estate Investment: Analysis and Financing. (C)

Prerequisite(s): FNCE 100.

This course provides a broad introduction to real estate with a focus on investment

and financing issues. Project evaluation, financing strategies, investment decision making and real estate capital markets are covered. No prior knowledge of the industry is required, but students are expected to rapidly acquire a working knowledge of real estate markets. Classes are conducted in a standard lecture format with discussion required. The course contains cases that help students evaluate the impact of more complex financing and capital market tools used in real estate. There are case studies and two midterms, depending on instructor.

219. International Financial Markets.

(C) Prerequisite(s): FNCE 100, (FNCE 611), FNCE 101,(FNCE 613) STAT 101.

This course focuses on international financial markets and exchange rates. Topics include pricing in the foreign currency and Eurocurrency markets, use of forward exchange for hedging, short-term returns and market efficiency in the international money markets, foreign currency options, international capital asset pricing, pricing of foreign currency bonds, currency swaps, Eurocurrency syndicated loans, foreign currency financing and exposure management.

220. International Banking. (A)

Prerequisite(s): FNCE 100, FNCE 101.

This course focuses on international financial institutions and international banking activities. We will examine how current and historical events are reshaping the industry. We will focus on the basic analytics of managing a bank's exposure to liquidity, credit, market and country risk. In addition, we will consider how to evaluate and compare the risk exposures and performance of individual banks. Throughout the semester we will discuss public policy issues such as international debt crises and regulation.

230. (BEPP230, REAL230) Urban Fiscal Policy. (A)

Robert Inman.
Prerequisite(s): FNCE 101 and ECON 001.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public

education, and fiscal constitutions for new democracies using South Africa as an example.

235. Fixed Income Securities. (C)

Prerequisite(s): FNCE 100 and STAT 621.

This course covers fixed income securities (including fixed income derivatives) and provides an introduction to the markets in which they are traded, as well as to the tools that are used to value these securities and to assess and manage their risk. Quantitative models play a key role in the valuation and risk management of these securities. As a result, although every effort will be made to introduce the various pricing models and techniques as intuitively as possible and the technical requirements are limited to basic calculus and statistics, the class is by its nature quantitative and will require a steady amount of work. In addition, some computer proficiency will be required for the assignments, although familiarity with a spreadsheet program (such as Microsoft Excel) will suffice.

238. Capital Markets. (C)

Prerequisite(s): FNCE 100,(FNCE 611).

The objective of this course is to give you a broad understanding of the framework and evolution of U.S. capital markets, the instruments that are traded, the mechanisms that facilitate their trading and issuance, and the motivations of issuers and investors across different asset classes. The course will highlight the problems that capital market participants are seeking to solve, which you can use in your post-Wharton careers to evaluate future market innovations. We will consider design, issuance, and pricing of financial instruments, the arbitrage strategies which keep their prices in-line with one another, and the associated economic and financial stability issues. We will draw from events in the aftermath of the recent financial crisis, which illustrate financing innovations and associated risks, as well as policy responses that can change the nature of these markets.

239. Behavioral Finance. (C)

Prerequisite(s): FNCE 100, FNCE 101.
Recommended: FNCE 205 and FNCE 203.

There is an abundance of evidence suggesting that the standard economic paradigm - rational agents in an efficient market - does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets. Along the way, we will address the standard argument that smart, profit-seeing agents can correct any

distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We then explore the evidence for both views in the context of capital structure, investment, dividend, and merger decisions.

250. Venture Capital and the Finance of Innovation. (C)

Prerequisite(s): FNCE 100 (FNCE 611) and FNCE 101 (FNCE 613)- (FNCE 101-FNCE 613 may be taken concurrently).

This course covers the finance of technological innovation, with a focus on the valuation tools useful in the venture capital industry. These tools include the "venture capital method," comparables analysis, discounted cash flow analysis, contingent-claims analysis. The primary audience for this course is finance majors interested in careers in venture capital or in R&D-intensive companies in health care or information technology.

251. The Finance of Buyouts and Acquisitions.

Prerequisite(s): FNCE 100 (FNCE611), FNCE 101 (FNCE 613), Co-Requisite FNCE 203 (FNCE 726) Advanced Corporate Finance or FNCE 207 (FNCE 728) Corporate Valuation.

FORMAT: Lectures, cases, and guest speakers. Grading: Class participation, two students projects, two exams.

The course focuses on financial tools, techniques, and best practices used in buyouts (financial buyers) and acquisitions (strategic buyers). While it will touch upon various strategic, organizational, and general management issues, the main lens for studying these transactions will be a financial one. It will explore how different buyers approach the process of finding, evaluating, and analyzing opportunities in the corporate-control market; how they structure deals and how deal structure affects both value creation and value division; how they add value after transaction completion; and how they realize their ultimate objectives (such as enhanced market position or a profitable exit). The course is divided into two broad modules. The first module covers mergers and acquisitions, and the second one studies buyouts by private equity partnerships. During the spring semester this course cannot be taken pass/fail.

256. Finance Energy. (C) Professor Erik Gilje. Prerequisite(s): FNCE 203-Advanced Corporate Finance or FNCE 207-Corporate Valuation. Students who receive permission to enroll without the prerequisites are expected to review the relevant topics as necessary to meet the requirements of the class.

The objective of this course is to provide students with detailed knowledge of corporate structures, valuation methods, project finance, risk management practices, corporate governance issues, and geopolitical risks in the energy industry. In general, this course seeks to provide students with an overall context for understanding energy issues and risks, and how these might affect financing and investment decisions for both providers of energy and end-users of energy.

SM 383. Strategic Equity Finance. (B) Professor David Musto and Professor David Erickson. Prerequisite(s): FNCE 100 - Corporate Finance.

This course combines lectures and cases, and will go through actual situations where companies need to make strategic decisions on raising equity capital. We will address different phases of a company's life cycle. Through these cases, from the decision-makers perspective, we will explore the different paths that can be taken and consider issues such as investor activism, governance and regulatory and valuation impact. FNCE 383 is a half semester course offered in Q3 during the spring semester.

385. ASP - FIN-TECH. Prerequisite(s): A thorough knowledge of FNCE 100 is assumed.

The course exposes students to this fast-growing and exciting intersection between finance (Fin) and technology (Tech) while emphasizing the role data and analytics play. The course is structured around three main FinTech areas: (i) Lending/Banking services, (ii) Clearing (iii) Trading. It provides specific coverage and examples of developments from (1) peer-to-peer lending, (2) blockchain and distributed ledgers, (3) networks and their use in trading, and (4) algo trading and its use of non-standard inputs. In each of these areas, we start by analyzing the marketplace, and the incumbents, and the business case and strategies of the incoming technology-based players, while understanding the role data and analytics play in driving the technology-based services. The course is built around a large number of examples and cases, guest lectures, student presentations, and group projects. Student are thus expected to work in teams and demonstrate

a high level of independent learning and initiative.

386. ASP - HEDGE FUNDS. Professor Bilge Yilmaz. Prerequisite(s): FNCE 100.

This course will cover critical aspects and characteristics of hedge funds and the hedge fund industry. It will look at the legal foundations and structures of hedge funds including the primary regulations in the U.S. and abroad that are most relevant for hedge funds. It will also present the major hedge fund strategies, describe operation, control, administration, due diligence and valuation issues. Performance evaluation and investing in hedge funds from the investor's perspective will be discussed as will be issues of potential changes in regulation, risk management, and the use of leverage.

The format of the course will mix lectures with presentations from industry participants, hedge fund managers, those who invest in hedge funds, those who advise them and provide services to them, and those who regulate them. Those who want to launch a hedge fund, join an existing one, invest in one, or provide services to one will want to register for this course.

397. (FNCE897) Finance In The Middle East & North Africa. Professor Bulent Gultekin, Finance Department and Professor Michael J.T. McMillen, Penn Law School. Course Format - This course will be taught through cases and lectures. Guest Lecturers - Distinguished practitioners will lecture and conduct case discussions. Our guest lecturers will bring their experience and insights to the classroom.

This is a Wharton Global Modular Course on finance in the Middle East and North Africa. Its objective is to bring students, academics and industry experts together to study financial markets, practice, and institutions in this region.

399. Supervised Study in Finance. Prerequisite(s): Senior standing, 3.4 grade point average, and permission of a Finance Department standing faculty member.

Integrates the work of the various courses and familiarizes the student with the tools and techniques of research.

611. (FNCE100) Corporate Finance. Prerequisite(s): ACCT 611/612/613; MGEC 612/611; STAT 613/621 prerequisite or concurrent.

This course serves as an introduction to business finance (corporate financial management and investments) for both non-majors and majors preparing for upper-

level course work. The primary objective is to provide the framework, concepts, and tools for analyzing financial decisions based on fundamental principles of modern financial theory. The approach is rigorous and analytical. Topics covered include discounted cash flow techniques; corporate capital budgeting and valuation; investment decisions under uncertainty; capital asset pricing; options; and market efficiency. The course will also analyze corporate financial policy, including capital structure, cost of capital, dividend policy, and related issues. Additional topics will differ according to individual instructors.

612. Accelerated Corp Finance. Q-1 Half Semester course.

This course is intended for students with prior knowledge of finance or with strong analytical backgrounds. Together with the pre-term preparation course (FNCE604) the foundation for subsequent courses in corporate finance, corporate valuation, investments, and financial derivatives. Its purpose is to develop a framework for analyzing a firm's investment and financial decisions. This course will start where FNCE604 ends. More precisely, it will provide an introduction to capital budgeting techniques under uncertainty, asset valuation, the operation and efficiency of capital markets, the optimal capital structure and dividend policy of the firm and options. In short, it will cover all the topics of a typical semester-long finance introductory class in six weeks. This course assumes that students are familiar with the material covered in FNCE 604. As a result, it is only available to those students who successfully passed the Finance Placement Exam at the end of the pre-term. This course is not suitable for students new to finance and with limited analytical backgrounds. This course is hard. The pace is fast and it requires a major investment of time and effort outside class.

613. Macroeconomics and the Global Economic Environment.

This course is required for all students except those who, having prior training in macroeconomics, money and banking, and stabilization policy at an intermediate or advanced level, can obtain a waiver by passing an examination. The purpose of FNCE 613 is to train the student to think systematically about the current state of the economy and macroeconomic policy, and to be able to evaluate the economic environment within which business and financial decisions are made. The course emphasizes the use of economic theory to understand the workings of financial

markets and the operation and impact of government policies. Specifically, the course studies the determinants of the level of national income, employment, investment, interest rates, the supply of money, inflation, exchange rates, and the formulation and operation of stabilization policies.

614. Corporate Finance (Half CU).

Prerequisite(s): ACCT 611/612/613; MGEC 612/611; STAT 613/621 prerequisite or concurrent.

This course serves as an introduction to corporate investments for non-majors. The primary objective is to provide a framework, concepts, and tools for analyzing financial decisions based on fundamental principles of modern financial theory. The approach is rigorous and analytical. Topics covered include discounted cash flow techniques, corporate capital budgeting and valuation, investment decisions under uncertainty, and capital asset pricing. This course will not cover the following topics included in FNCE 611, the full semester Corporate Finance course: market efficiency, corporate financial policy (including capital structure, cost of capital, dividend policy, and related issues), and options. Please Note: This course will not count towards the Finance Major. Format: Primarily lecture. Grading based on problem sets, one or two cases, and a final exam.

615. Macroeconomics and The Global Economic Environment (Half CU). Prerequisite(s): FNCE 611 or FNCE 612.

FNCE 615 Introduction To Macroeconomics and The Global Economic Environment (Half Cu) is intended for non-finance majors. It is a half-semester course in macroeconomics, with an emphasis on current events and policy applications. The goal of this course is to provide the foundation needed to recognize and understand broad economic and financial movements in the global economy. Key topics include national income accounting, production and economic growth, employment, business cycles, monetary and fiscal policy, and international finance. By the end of this course, students will be able to evaluate and discuss the global economic environment in which business and financial decisions are made. PLEASE NOTE: This course will not count towards a Finance Major

717. (FNCE206) Financial

Derivatives. (C) Prerequisite(s): The following introductory Finance and Statistics courses are recommended but not required. FNCE 611 or FNCE 612; STAT 613: FNCE 613 may be taken concurrently.

The purpose of this course is to provide the student with the necessary skills to value and to employ options, futures, and related financial contracts. In order to provide a useful treatment of these topics in an environment that is changing rather rapidly, it is necessary to stress the fundamentals and to explore the topics at a technical level. The topics that will be covered include the valuation of futures contracts on stock indices, on commodities and Treasury instruments; the valuation of options, empirical evidence, strategies with respect to these assets, dynamic asset allocation strategies, or which portfolio insurance is an example, swaps, and the use (and misuse) of derivatives in the context of corporate applications. One-third of the course will be devoted to futures, a third to options, and a third to their applications. Many of the applications will be sprinkled along with the coverage of futures and options.

719. International Financial Markets. (C)

Prerequisite(s): FNCE 611 or FNCE 612; FNCE613 may be taken concurrently.

FNCE 719 is a course on international financial markets and exchange rates. Topics include pricing in the foreign currency and Eurocurrency markets, use of forward exchange for hedging, short-term returns and market efficiency in the international money markets, foreign currency options, international capital asset pricing, pricing of foreign currency bonds, currency swaps, Eurocurrency syndicated loans, foreign currency financing and exposure management.

720. Investment Management. (C)

Prerequisite(s): The prerequisites for MBA students are FNCE 611 or FNCE 612; and STAT 613 or STAT 621 Given that investment management requires one to analyze and deal effectively with uncertainty, a good grounding in statistics is essential, and familiarity with statistics should extend through multiple regression, covariance, and correlation.

This course studies the concepts and evidence relevant to the management of investment portfolios. Topics include diversification, asset allocation, portfolio optimization, factor models, the relation between risk and return, trading, passive (e.g., index-fund) and active (e.g., hedge-fund, long-short) strategies, mutual funds, performance evaluation, long-horizon

investing and simulation. The course deals very little with individual security valuation and discretionary investing (i.e., "equity research" or "stock picking").

725. Fixed Income Securities. (A)

Prerequisite(s): FNCE 611 and STAT 621.

This course covers fixed income securities (including fixed income derivatives) and provides an introduction to the markets in which they are traded, as well as to the tools that are used to value these securities and to assess and manage their risk. Quantitative models play a key role in the valuation and risk management of these securities. As a result, although every effort will be made to introduce the various pricing models and techniques as intuitively as possible and the technical requirements are limited to basic calculus and statistics, the class is by its nature quantitative and will require a steady amount of work. In addition, some computer proficiency will be required for the assignments, although familiarity with a spreadsheet program (such as Microsoft Excel) will suffice.

726. Advanced Corporate Finance. (C)

Prerequisite(s): FNCE 611 or FNCE 612; FNCE 613.

The objective of this course is to study the major decision-making areas of managerial finance and some selected topics in financial theory. The course reviews the theory and empirical evidence related to the investment and financing policies of the firm and attempts to develop decision-making ability in these areas. This course serves as an extension of FNCE 611. Some areas of financial management not covered in FNCE 611 are covered in FNCE 726. These may include leasing, mergers and acquisitions, corporate reorganizations, financial planning, and working capital management, and some other selected topics. Other areas that are covered in FNCE 611 are covered more in depth and more rigorously in FNCE 726. These include investment decision making under uncertainty, cost of capital, capital structure, pricing of selected financial instruments and corporate liabilities, and dividend policy.

728. Corporate Valuation. (C)

Prerequisite(s): Minimum of normal first-year courses in accounting, economics, statistics, and FNCE 611 or 612; FNCE 613 (further coursework in financial accounting such as ACCT 742 is very useful).

The focus of this course is on the valuation of companies. Topics discussed include discounted cash flow techniques and valuation using alternative valuation

techniques such as price multiples. Emphasis is on developing the required information for valuation from financial statements and other information sources.

730. (BEPP773, REAL730) Urban Fiscal Policy. (A) Dr. Robert Inman.

Prerequisite(s): MGEC 621, FNCE 611. Lectures. There is a mid-term and final exam.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.

731. International Corporate Finance. (A) Prerequisite(s): FNCE 611 or 612 - A thorough knowledge of Corporate Finance is assumed.

This course analyzes financial problems corporations face that result from operating in an international environment. Major topics covered are corporate strategy and the decision to invest abroad, international portfolio diversification, managing exchange risk, taxation issues, cost of capital and financial structure in the multinational firm, and sources of financing. Departmental Website: <https://fnce.wharton.upenn.edu/> Registration: Registration for MBA electives is handled through the MBA Course Auction. For questions about core courses or MBA electives that don't appear in the course auction please contact the MBA Program Office. Non-MBAs interested in graduate classes must work through the academic department and the MBA Program Office.

732. International Banking. (A)

Prerequisite(s): FNCE 611 or 612; FNCE 613. One, but not both, can be taken concurrently.

This course focuses on international financial institutions and international banking activities. We will examine how current and historical events are reshaping the industry. We will focus on the basic analytics of managing a bank's exposure to liquidity, credit, market and country risk.

In addition, we will consider how to evaluate and compare the risk exposures and performance of individual banks. Throughout the semester we will discuss public policy issues such as international debt crises and regulation.

738. (FNCE238) Capital Markets. (C)

Prerequisite(s): FNCE 611 or 612; FNCE 613.

The objective of this course is to give you a broad understanding of the instruments traded in modern financial markets, the mechanisms that facilitate their trading and issuance, as well as, the motivations of issuers and investors across different asset classes. The course will balance functional and institutional perspectives by highlighting the problems capital markets participants are seeking to solve, as well as, the existing assets and markets which have arisen to accomplish these goals. We will consider design, issuance, and pricing of financial instruments, the arbitrage strategies which keep their prices in-line with one another, and the associated economic and financial stability issues. The course is taught in lecture format, and illustrates key concepts by drawing on a collection of case studies and visits from industry experts.

739. Behavioral Finance. (C)

Prerequisite(s): FNCE 611 or 612; FNCE 613. Recommended: FNCE 720 and FNCE 726.

There is an abundance of evidence suggesting that the standard economic paradigm - rational agents in an efficient market - does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets. Along the way, we will address the standard argument that smart, profit-seeking agents can correct any distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We then explore the evidence for both views in the context of capital structure, investment, dividend, and merger decisions.

750. Venture Capital and the Finance of Innovation. (C)

Prerequisite(s): FNCE 611 and FNCE 613 - FNCE 613 may be taken concurrently.

This course covers the finance of technological innovation, with a focus on the valuation tools useful in the venture

capital industry. These tools include the "venture capital method," comparables analysis, discounted cash flow analysis, contingent-claims analysis, and real options. The primary audience for this course is finance majors interested in careers in venture capital or in R&D-intensive companies in health care or information technology.

751. The Finance of Buyouts and Acquisitions.

Prerequisite(s): Pre-Requisites FNCE 611 and FNCE 613 (Or 612) - C0-Requisites FNCE 726 or FNCE 728 may be taken concurrently.

The focus of this course is on buying (or acquiring controlling stakes in) firms. The main topics to be covered are mergers and friendly acquisitions, hostile takeovers and buyouts. Using case studies, the course surveys the drivers of success in the transactions. While issues regarding motive and strategy will be discussed, financial theory would be the main lens used to view these control acquiring transactions. This will allow students to (1) evaluate transactions through valuation approaches and (2) structure deals employing financial innovation as a response to legal framework and economic frictions. This course should be of interest to students interested in pursuing careers as private equity investors, advisors in investment banking and corporate managers that deal with these issues. This course assumes familiarity with valuation analysis. During the spring semester students are not permitted to take this course pass fail.

754. Impact Investing. Christopher Geczy, Ph.D.

Prerequisite(s): Prerequisites This course has no specific prerequisites, but given its wide-ranging subject matter, students will benefit from completion of any of the following Wharton courses: FNCE 613 Macroeconomics and the Global Economic Environment; FNCE 720 Investment Management; FNCE 738 Capital Markets; and FNCE 895 Private Equity. Coursework or practical experience in microeconomics, development economics, international philanthropy, Non-Governmental Organizations, financial risk management and political risk analysis will also be useful.

This course explores Impact Investing, a discipline that seeks to generate social benefits as well as financial returns. From tiny beginnings, the Impact Investment space has expanded and now commands significant attention from policymakers, wealthy and public-spirited individuals, academia and, not least, the world's largest

asset managers and philanthropic foundations. Evangelists believe it may be the key to freeing the world from poverty. Skeptics think it will remain confined to the boutique. Regardless, Impact Investing is becoming a distinct career specialization for finance professionals despite the diverse skillset each must have and the uncertainty of the new field's growth.

756. Finance Energy. (C) Professor Erik Giljie. Prerequisite(s): The prerequisites for the course are FNCE 726-Advanced Corporate Finance or FNCE 728-Corporate Valuation. Students who receive permission to enroll without the prerequisites are expected to review the relevant topics as necessary to meet the requirements of the class.

The objective of this course is to provide students with detailed knowledge of corporate structures, valuation methods, project finance, risk management practices, corporate governance issues, and geopolitical risks in the energy industry. In general, this course seeks to provide students with an overall context for understanding energy issues and risks, and how these might affect financing and investment decisions for both providers of energy and end-users of energy.

883. Strategic Equity Finance. (B) Professor David Musto and Professor David Erickson. Prerequisite(s): FNCE 611 - Corporate Finance.

This course combines lectures and cases, and will go through actual situations where companies need to make strategic decisions on raising equity capital. We will address different phases of a company's life cycle. Through these cases, from the decision-makers perspective, we will explore the different paths that can be taken and consider issues such as investor activism, governance and regulatory and valuation impact. FNCE 883 is a half semester course offered in Q3 of the spring semester.

884. ASP - Advanced Topics in Private Equity. Professor Bilge Yilmaz (yilmaz@wharton.upenn.edu) and Fellow David Bard. Prerequisite(s): Successful completion of core finance requirements, FNCE 611 and FNCE 613, as well as FNCE 726 or FNCE 751; special permission can also be requested based on relevant professional experience.

This course will address a variety of applied topics in private equity (PE), with a focus on growth and later-stage buyout transactions (venture capital is not explicitly addressed in this course), and a primarily U.S.-centric view that should be largely applicable in other markets. In

addition, the course will focus on the transaction stage of PE investing i.e., the art of the deal and mostly leave aside deal sourcing, portfolio management and investor relations. The goal of this course is to educate students about the substance, process and mechanics of PE investing, through the lens of the investment professionals, counterparties and advisors that drive transactions to completion. Course topics will address the entire deal process, and will include the following: Commercial Diligence (incl. financial modeling); Debt Financing; Accounting Diligence; Sales & Purchase Agreements; Comps Analysis; and Other Advisory Work. Throughout the course, students will learn about each element of the deal process through in-class lectures, while concurrently apply those learnings to a real-time mock deal, and preparing deal materials that mirror a real private equity transaction. The in-class lectures will cover both conceptual frameworks and real-world examples.

885. FIN-TECH. Prerequisite(s): A thorough knowledge of FNCE 611 is assumed.

The course exposes students to this fast-growing and exciting intersection between finance (Fin) and technology (Tech) while emphasizing the role data and analytics play. The course is structured around three main FinTech areas: (i) Lending/Banking services, (ii) Clearing (iii) Trading. It provides specific coverage and examples of developments from (1) peer-to-peer lending, (2) blockchain and distributed ledgers, (3) networks and their use in trading, and (4) algo trading and its use of non-standard inputs. In each of these areas, we start by analyzing the marketplace, and the incumbents, and the business case and strategies of the incoming technology-based players, while understanding the role data and analytics play in driving the technology-based services. The course is built around a large number of examples and cases, guest lectures, student presentations, and group projects. Students are thus expected to work in teams and demonstrate a high level of independent learning and initiative.

886. ASP - HEDGE FUNDS. Professor Bilge Yilmaz. Prerequisite(s): FNCE 611 or FNCE 612.

This course will cover critical aspects and characteristics of hedge funds and the hedge fund industry. It will look at the legal foundations and structures of hedge funds including the primary regulations in the U.S. and abroad that are most relevant for hedge funds. It will also present the

major hedge fund strategies, describe operation, control, administration, due diligence and valuation issues. Performance evaluation and investing in hedge funds from the investor's perspective will be discussed as will be issues of potential changes in regulation, risk management, and the use of leverage.

The format of the course will mix lectures with presentations from industry participants, hedge fund managers, those who invest in hedge funds, those who advise them and provide services to them, and those who regulate them. Those who want to launch a hedge fund, join an existing one, invest in one, or provide services to one will want to register for this course.

893. Global Monetary and Financial Institutions: Theory and Practice.

Professor Zvi Eckstein; Dean of Arison School of Business and Tiomkin School of Economics. Herzliya, Israel. Prerequisite(s): FNCE 611 or 612; FNCE 613; STAT 613. Requirements: Final examinations (60%-passing grade is required); three out of four assignments done by teams of 3-4 students (30%); active participation in class discussion (10%).

This course aims to provide the future global manager and financial analyst with the knowledge on policies set by central banks, regulators and governments to reach the goals of price and financial stability as well as support of growth and employment. The core of the course connects between the formal and actual goals that central banks follow and the related economic analysis on which the goals and the policies are set. We will explain the economic rationale for the policy prescriptions to reach the goals and how these are implemented using institutional framework in the US, the European Central Bank (ECB), Israel and remarks on other countries. We use data, current events and events of the 2007-2012 financial crisis as a basis for discussion and assignments. All these are aimed at understanding how and why the Federal Reserve of the US (the Fed), The bank of Israel (BOI) and the European Central Bank (ECB) set their policies and how that is related to academic research on these issues.

895. (FNCE395) Private Equity.

Prerequisite(s): FNCE 726 and FNCE 751 or permission from the instructor.

This course will be a survey of the private equity asset class. Its objective is to provide an understanding of the concepts, agents, and institutions involved in the late stage corporate private equity market in the

U.S. and around the globe. It will examine the buyout market and the activities of buyout funds from the differing perspectives of private equity investors, private equity fund sponsors, and managers of the portfolio companies. The course will be taught almost entirely with cases. Distinguished Wharton alumni in the private equity industry will be our guest speakers for many of the cases based on transactions they concluded. While this course is primarily intended for graduate students, admission may be granted to a limited number of interested undergraduate students. PLEASE NOTE: this course may be recorded for live or subsequent distribution, display, broadcast, or commercialization in any media, including video, audio, or electronic media. For additional information, see the course syllabus or contact the department.

896. (WH 215) Finance in Europe.

This is a short seminar on finance in Europe. Its objective is to bring students, academics and several industry experts together to study financial markets, practice, and institutions in Europe. The course will primarily examine the following areas: 1. Current challenges in European markets and Euro Zone 2. Political economy of European Union 3. Alternative Investments 4. Investment Banking & Cross Border Mergers and Acquisitions. We will cover the above topics by studying the practice and transactions in Europe with a comparison to USA and rest of the world. This is a half unit course and it is designed for Wharton MBAs. Exceptionally motivated undergraduate students are also welcome to take the course.

897. (FNCE397, WH 214) Finance In The Middle East & North Africa.

Professor Bulent Gultekin, Finance Department and Professor Michael J.T. McMillen, Penn Law School. Course Format - This course will be taught through cases and lectures. Guest Lecturers - Distinguished practitioners will lecture and conduct case discussions. Our guest lecturers will bring their experience and insights to the classroom.

This is a Wharton Global Modular Course on finance in the Middle East and North Africa. Its objective is to bring students, academics and industry experts together to study financial markets, practice, and institutions in this region.

911. Financial Economics. (A)

Prerequisite(s): ECON 681 or ECON 701, Matrix Algebra, and Calculus.

The objective of this course is to undertake a rigorous study of the theoretical foundations of modern financial economics. The course will cover the central themes of modern finance including individual investment decisions under uncertainty, stochastic dominance, mean variance theory, capital market equilibrium and asset valuation, arbitrage pricing theory, option pricing, and incomplete markets, and the potential application of these themes. Upon completion of this course, students should acquire a clear understanding of the major theoretical results concerning individuals' consumption and portfolio decisions under uncertainty and their implications for the valuation of securities.

912. Corporate Finance and Financial Institutions. (B)

Prerequisite(s): ECON 681 or ECON 701.

This course provides students with an overview of the basic contributions in the modern theory of corporate finance and financial institutions. The course is methodology oriented in that students are required to master necessary technical tools for each topic. The topics covered may include capital structure, distribution policy, financial intermediation, incomplete financial contracting, initial and seasoned public offerings, market for corporate control, product market corporate finance interactions, corporate reorganization and bankruptcy, financing in imperfect markets, security design under adverse selection and moral hazard, and some selected topics.

921. Introduction to Empirical Methods in Finance. (B)

Prerequisite(s): FNCE 911 (can be taken concurrently), STAT 510 and 511 or equivalent.

This course is an introduction to empirical methods commonly employed in finance. It provides the background for FNCE 934, Empirical Research in Finance. The course is organized around empirical papers with an emphasis on econometric methods. A heavy reliance will be placed on analysis of financial data.

922. Continuous-Time Financial Economics. (A)

Prerequisite(s): FNCE 911, ECON 701, ECON 703. (Graduate level knowledge of analysis and statistics is highly recommended but not required).

This course covers some advanced material on the theory of financial markets developed over the last two decades. The emphasis is on dynamic asset pricing and

consumption choices in a continuous time setting. The articles discussed include many classical papers in the field as well as some of the most recent developments. The lectures will emphasize the concepts and technical tools needed to understand the articles.

923. Financial Economics Under Imperfect Information. (M)

Prerequisite(s): FNCE 922.

This course covers General equilibrium and rational expectations, foundations of the theory of information; learning from prices in rational expectations equilibrium models, moral hazard, adverse selection, and signalling Bidding theories.

924. Intertemporal Macroeconomics and Finance. (B)

Prerequisite(s): FNCE 911.

This is a doctoral level course on macroeconomics, with special emphasis on intertemporal choice under uncertainty and topics related to finance. Topics include: optimal consumption and saving, the stochastic growth model, q-theory of investment, (incomplete) risk sharing and asset pricing. The course will cover and apply techniques, including dynamic programming, to solve dynamic optimization problems under uncertainty. Numerical solution methods are also discussed.

925. Topics In Asset Pricing. (C)

This course will analyze several aspects of liquidity. Mostly, it will concentrate on liquidity as an asset's property of being traded quickly and at low cost, but the notion of availability of cash will also be studied. Particular attention will be devoted to exogenous transaction costs, asymmetric information and search frictions as determinants of asset liquidity and, consequently, price. We will also look at liquidity risk, institutional features arising as response to liquidity problems, and financing constraints. The course will concentrate on theoretical models, but the empirical literature will be referred to throughout.

926. Empirical Methods in Corporate Finance. (A)

Prerequisite(s): STAT 521 - Students are required to have taken a graduate sequence in Econometrics, you should be comfortable with econometrics at the level of William Green's "Econometric Analysis of Cross-Section and Panel Data".

The course will cover a variety of microeconomic models and methods including panel data models, program evaluation methods [e.g. difference in differences, matching techniques,

regression discontinuity design] instrumental variables, duration models, structural estimation [e.g. simulated methods of moments]. The structure of the course consists of lectures, student presentations, and empirical exercises. I will utilize published studies in a variety of fields such as corporate finance, labor economics, and industrial organization to illustrate the various techniques. The goal of the course is to provide students with a working knowledge of various econometric techniques that they can apply in their own research. As such, the emphasis of the course is on applications, not theory.

927. Selected Topics in Empirical Corporate Finance. (A) Prerequisite(s): While there are no official prerequisites, it would be very beneficial if you have taken the Financial Institutions (FNCE 912) and Empirical Methods in Corporate Finance (FNCE 926) Ph.D courses. You should be comfortable with the basic concepts covered in those courses.

The general objective of the course is to teach and encourage students to explore interesting research questions in corporate finance. We will work toward this goal by introducing students to several advanced topics in empirical corporate finance and expose students to some current work. An emphasis will be put on the link between empirical and theoretical work, and how to think about research questions critically.
Inactive

928. Methods In Finance Theory. (B) PROFESSOR YIRAN JOHN ZHU. Prerequisite(s): Some mathematical sophistication. A familiarity with the basic principles of microeconomics is useful but not required.

This doctoral level course introduces students to game theory and continuous-time methods. Both techniques represent fundamental approaches to organizing, modeling and understanding complex financial phenomena. The game theory

half will cover equilibrium concepts, moral hazard, signaling and screening. Highlights include rigorous formulations and analyses of the perfect Bayesian equilibrium concept and the principal-agent relationship. Both ideas are central to theories of corporate finance and financial markets - subjects that the students will be exposed to in the spring. The continuous-time methods half will cover basic stochastic calculus and applications to capital structure, Merton's consumption-portfolio, and problem and optimal contracts.

932. Corporate Finance. (C) Prerequisite(s): FNCE 911, FNCE 921, or permission of instructor.

This course covers Advanced theory and empirical investigations; financial decisions of the firm, dividends, capital structure, mergers, and takeovers.

933. International Finance. (M) Prerequisite(s): FNCE 911 (FNCE 922 recommended).

This course provides an understanding of current academic research in the areas of international finance and international macroeconomics. Students will learn the tools for conducting research in this field.

934. Empirical Methods In Asset Pricing. (A) Prerequisite(s): FNCE 911 and FNCE 921.

Rigorous treatment of current empirical research in finance. Applications of multivariate and nonlinear methods. Intertemporal and multifactor pricing models. Conditional distributions, and Temporal dependence in asset returns.

937. Applied Quantitative Methods in Finance. (A) Prerequisite(s): FNCE 911.

This is an advanced course in quantitative theory applied to macro and finance models. It is intended for doctoral students in finance, economics and related fields. The course focuses on four broad theoretical literatures: (i) firm investment

and growth; (ii) corporate, household and sovereign debt; (iii) asset pricing in general equilibrium; and (iv) equilibrium macro models with a financial sector. My approach is to develop and discuss in detail a unified framework that is suited to address most topics, usually covering a few central topics and the core papers. We then discuss the more recent literature, highlighting how authors combine and expand upon the core ideas. This part of the course usually relies on regular student presentations.

939. Behavioral Finance. (C) Prerequisite(s): FNCE 911.

There is an abundance of evidence suggesting that the standard economic paradigm-rational agents in an efficient market-does not adequately describe behavior in financial markets. In this course, we will survey the evidence and use psychology to guide alternative theories of financial markets with an eye towards identifying frontiers and opportunities for new research. Along the way, we will address the standard argument that arbitrage will eliminate any distortions caused by irrational investors. Further, we will examine more closely the preferences and trading decisions of individual investors. We will argue that their systematic biases can aggregate into observed market inefficiencies. The second half of the course extends the analysis to corporate decision making. We present the two themes of behavioral corporate finance: rational managers exploiting financial market inefficiencies and managerial decision-making biases. We then explore the evidence for both views in the context of capital structure, investment, dividend, and merger decisions. We emphasize the importance of differentiating the behavioral approach from information models and other more traditional methodology.

Not currently being offered.

FINE ARTS (FA) {FNAR}

034. (ENGL034, HIST034) Cultures of the Book. (A)

This course focuses upon the making, remaking, dissemination, and reading of texts in early modern Europe and America. Topics will include: practices of reading; learning to write; the constitution of authorship; the interaction of printing and manuscript; the economics of printing and publishing; the transatlantic book trade. Texts for the course will include: Shakespeare, *Venus and Adonis* and *1 and 2 Henry IV*; Mary Rowlandson, *The Sovereignty and Goodness of God*; Alexander Pope, *The Dunciad*; Samuel Richardson, *Pamela*; Benjamin Franklin, *Autobiography*; the Constitution of the United States.

SM 061. (CIMS061, FNAR661, VLST261) Video I. (C) Course Fee \$75.00.

In this studio based course, students are introduced to video production and postproduction as well as to selected historical and theoretical texts addressing the medium of video. Students will be taught basic camera operation, sound recording and lighting, as well as basic video and sound editing and exporting using various screening and installation formats. In addition to a range of short assignment-based exercises, students will be expected to complete three short projects over the course of the semester. Critiques of these projects are crucial to the course as students are expected to speak at length about the formal, technical, critical and historical dimensions of their works. Weekly readings in philosophy, critical theory, artist statements and literature are assigned. The course will also include weekly screenings of films and videos, introducing students to the history of video art as well as to other contemporary practices.

If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu

SM 062. (CIMS062, FNAR662) Video II. (C) Prerequisite(s): FNAR 061. Course Fee \$75.00.

Video II offers opportunities to further explore the role of cinematic narrative technique, non-narrative forms, digital video cinematography, editing, and screen aesthetics. Through a series of several video projects and a variety of technical exercises, students will refine their ability to articulate technically and conceptually

complex creative projects in digital cinema. In addition, one presentation on a contemporary issue related to the application of cinematic storytelling and/or the cultural context of digital video is required.

SM 063. (CIMS063, FNAR663) Documentary Video. (A)

Prerequisite(s): FNAR 061. Course Fee \$75.00.

Documentary Video is an intensive production course involving the exploration of concepts, techniques, concerns, and aesthetics of the short form documentary. Building on camera, sound, and editing skills acquired in Video I, students will produce a portfolio of short videos and one longer project over the course of the semester using advanced level camera and sound equipment. One short presentation on a genre, technique, maker, or contemporary concern selected by the student is required.

SM 065. (CIMS065, FNAR665) Cinema Production. (A) Prerequisite(s): FNAR 061. Course Fee \$75.00.

This course focuses on the practices and theory of producing narrative based cinema. Members of the course will become the film crew and produce a short digital film. Workshops on producing, directing, lighting, camera, sound and editing will build skills necessary for the hands-on production shoots. Visiting lecturers will critically discuss the individual roles of production in the context of the history of film.

SM 067. (CIMS067, FNAR667) Advanced Video Projects. (M)

Prerequisite(s): FNAR 062.

This course is structured to create a focused environment and support for individual inquiries and projects. Students will present and discuss their work in one to one meetings with the instructor and in group critiques. Readings, screenings, and technical demonstrations will vary depending on students' past history as well as technical, theoretical, and aesthetic interests. Course approval will be based on application prior to the beginning of the semester.

SM 068. (CIMS068, FNAR668) Cinematography. (B) Prerequisite(s): FNAR 061.

This course will be a technical, practical and aesthetic exploration of the art of cinematography as it pertains to film and digital video. Through screenings, in-class exercises and assignments, students will increase their Video I skills in lighting and

cinematography as a form of visual expression. Topics covered include shot composition, camera movement, lenses, filtration and color, exposure, lighting techniques, location shooting and how to use grip equipment. Discussions, demos and lectures will include relevant and illustrative historical motion picture photography, current digital video technology, and examples that explore interactions between film and video.

SM 070. (CIMS070, FNAR671) Film Sound: History, Aesthetics and Subversion. (C) Novack. Course Fee \$75.00.

Sound and Image as experienced in the cinema, are not divisible. One perception influences the other, and transforms it. While a preexisting harmony between these two senses may exist, its conventions are subject to manipulation and the whims of subversion. Film Sound tracks the technological and aesthetic history of sound for film including psychoacoustics, dialogue, music, sound fx and audio's gradual and triumphant march towards fidelity, stereo and surround sound. This lecture course, through an historical and pedagogical romp loaded with examples throughout film history and visits by lauded audio professionals from the film world, seeks to instruct students to engage in the process of sound perception, gaining an appreciation for the art of sound as it relates to the varied phenomenological dimensions of that unique audio-visual encounter we call movies.

073. (FNAR673) Machine for Seeing: Architecture and the Moving Image. (B) Hartt. Prerequisite(s): FNAR 061. Course Fee \$75.00.

Architecture's relationship with cinema was established with the very first motion picture. In *Sortie de l'usine Lumiere de Lyon* by Auguste and Louis Lumiere we see a didactic presentation of film titles as workers from the Lumiere brother's factory stream forth from its interior at days end. In many ways the context of the film is its subject as well. The title of the class plays on Le Corbusier's maxim that architecture is machine for living and perhaps cinema is simply a machine for helping us understand the vast construct of our built environment. A device, which allows us to imagine even greater follies or more importantly to think critically about architecture's relationship with and impact on society. Readings, screenings, discussions and critiques make up the curriculum along with studio time. Students will produce their own film and we will look at films produced by a range of practitioners: From architects speculating

on the nature of and use of public space and urban development to documentarians researching the pathologies of neo-liberalism and its effect on the privatization of space. We will also look at the work of artists who engage with the poetics of space and who unpack the conflicted legacies of the built environment

074. (FNAR674) A Virus in the Culture: Social Critique in Media Arts. (A)

David Hartt and Marks Owens. Prerequisite(s): FNAR 061 or permission from instructor.

In order to change the world, we must first learn how to infect it. A Virus in the Culture is a studio class that examines and generates various forms of media resistance to dominant hegemonic systems of power and control. Using filmmaking, publication design and interactive media we'll think through and develop responses to some of the most pressing issues facing us today. We'll look at historical models from the agitprop design work of Gee Vaucher for Anarcho-punk band Crass to Chris Marker's film *Le Fond de L'Air Est Rouge*, a radical analysis of global social and political turmoil in the late 60s and early 70s. We'll also look at experimental contemporary design firms like Metahaven who question the role of designers and filmmakers today - Bypassing the power dynamics of clients and briefs they took it upon themselves to create a graphic identity for WikiLeaks. Each example broadens the definition and possibilities of practice to create a more porous engagement with audiences and users while informing the practice of social critique today. Considering a diverse range of topics from education policy, to the rights of environmental refugees, we'll use the class to workshop a singular comprehensive project that targets researches and responds to a specific contested position. The outcome of which will be a class produced short film,

publication and website that unpacks the social, cultural, and economic complexities of our subject. This class is co-taught by David Hartt, an artist and filmmaker along with graphic designer, Mark Owens. Reading, screenings, discussions and critiques make up the curriculum along with studio time. While the focus of this course is not technical, prior knowledge of design programs, camera functions, and post-production techniques is expected.

SM 075. (CIMS075, FNAR675) Image and Sound Editing. (B) Prerequisite(s): FNAR 061. Course Fee \$75.00.

This course presents an in-depth look at the storytelling power of image and sound in both narrative and documentary motion pictures. Students apply a theoretical framework in ongoing workshops, exploring practical approaches to picture editing and sound design. Students edit scenes with a variety of aesthetic approaches, and create story-driven soundtracks with the use of sound FX, dialogue replacement, foleys, music and mixing. Students not only learn critical skills that expand creative possibilities, but also broaden their understanding of the critical relationship between image and sound.

085. (FNAR585) Performance Studio. (B)

Hayes. Prerequisite(s): One previous studio course (such as FNAR 123, FNAR145, FNAR150, or FNAR061) or permission from the instructor. Course Fee \$75.00.

This course supports the individual and collaborative production of performance works. As the medium of performance consists of diverse forms, actions, activities, practices and methodologies, the course allows for an open exploration in terms of material and form. Students are invited to utilize technologies, materials and methodologies from other mediums and/or disciplines such as video, photography, writing and sound. In addition to the production component, the course will examine multiple histories of performance through readings, screenings and directed research.

SM 100. Knowing the Contemporary Art World. (C)

This course introduces the student to the world of contemporary art, as it is comprised by a global community of leading artists, curators, writers, art historians and collectors within a network of galleries, museums and other institutional contexts. Contemporary art has become an increasingly important marker of a city (and nation's) economic development. According to economist and social scientist Richard Florida, contemporary art activity is an expression of a city's Creative Class, the generators of cultural and economic innovation. But what exactly is this world of contemporary art? The course begins by distinguishing between modern and contemporary art. There will be a teasing out of the issues from modern art that remain unresolved for contemporary art.

Students will study the key pre-occupations that are spurring much contemporary art production, including issues relating to identity in the age of globalization. A question that will be studied in this course relates to the ways in which artists have responded to dominant narratives of globalization. Additionally, another important question would look into how the artist's role has changed in the new globalized context of art production and circulation (including the rise of the art biennale.) By taking this course, students gain understanding into the constitution and of the contemporary art world and the key issues at play within it. There will be several trips to exhibitions to be announced.

123. (FNAR523, VLST253) Drawing I. (C)

This course is designed to develop visual awareness and perceptual acuity through the process of drawing. Students learn to sharpen perceptual skills through observational drawing, and to explore the expressive potential of drawing. A variety of problems and media will be presented in order to familiarize students with various methods of working and ways of communicating ideas visually. Subject matter will include object study, still life, interior and exterior space, self-portrait and the figure. Different techniques and materials (charcoal, graphite, ink, collage) are explored in order to understand the relationship between means, material and concept. Critical thinking skills are developed through frequent class critiques and through the presentation of and research into historical and contemporary precedent in drawing.

If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu

124. (FNAR524) Drawing Investigations. (C) Prerequisite(s): FNAR 123.

Drawing is a fundamental means of visualization and a hub for thinking, constructing, and engaging in a wide variety of creative activities and problemsolving. This studio class explores drawing in both its traditional and contemporary forms. The projects are designed to help students in all disciplines find ways express and clarify their ideas through the process of drawing. The semester begins with the refinement of perceptual skills acquired in Drawing I, while encouraging experimentation through the introduction of color, abstract agendas, conceptual problem solving, and collaborative exercises, as well as new

materials, techniques and large format drawings. Particular attention is given to ways to conduct visual research in the development of personal imagery. Assignments are thematic or conceptually based with ample opportunity for individual approaches to media, subject, scale and process. The goal is to strengthen facility, develop clarity in intent and expand expression. Attention is paid to the development of perceptual sensitivity, methods of image construction, and the processes of synthesis and transformation in order to communicate ideas through visual means. Recommended for students in all areas.

126. (FNAR526) Sequential Drawing. (B) Prerequisite(s): FNAR 123.

Sequential drawing instructs in the visualization of story telling through the exploration of visual narrative components (visual iconography, panel- to-panel transition types, picture/word relations) and their application to a narrative through the use of formal drawing techniques (composition, color, perspective, line, form). The class begins with various exercises in paneling, pacing and style development, and concludes with the student applying the concepts and techniques they've acquired to the creation of a graphic novel.

SM 130. Writing on the City: Letterforms, Technology and Philadelphia Culture. (A) Comberg.

This seminar explores the rich history of writing and typography from colonial to contemporary Philadelphia through primary source research at the city's many libraries and collections and through direct engagement with professional designers, crafts workers, and manufacturers. The course will be divided into two parts. The first phase will be devoted to information gathering: lectures, readings, and visits, including presentations, demonstrations, and hands-on research. Students will keep a journal of their inquiries and regularly share their insights during class sessions, developing a plan for final documentation. In the second phase students will synthesize and distill their research, developing theories, defining individual and group projects, and collectively writing, designing, and publishing a public framework (web/print/exhibition, etc.) to chronicle their scholarship.

142. (FNAR542) 3-D Design. (C)

Students will make work that draws from and interacts with the three-dimensional world we live in. Formal strategies will explore principles of organization. Planar

construction, modeling and assemblage methods will be used for investigations spanning from bas-relief to environmental art. This is a "learn by doing" process with no prerequisites.

145. (FNAR545, VLST252) Sculpture Practices. (C)

As an introduction to traditional and contemporary three-dimensional practice, this course is concerned with the concepts and methodologies surrounding three-dimensional art making in our time. Students experiment with a variety of modes of production, and develop some of the fundamental techniques used in sculpture. In addition to these investigations, assignments relative to the history and social impact of these practices are reinforced through readings and group discussion. Processes covered include use of the Fab Lab, wood construction, clay, paper, mixed media, and more.

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150. (VLST260) Photography Practices. (C) Course Fee \$75.00.

This course is an introduction to the basic principles, strategies and processes of photographic practice. It is designed to broaden the student's aesthetic explorations and to help the student develop a visual language based on cross-disciplinary artistic practice. Through a series of projects and exercises students will be exposed to a range of camera formats, techniques and encouraged to experiment with the multiple modes and roles of photography - both analogue and digital. Attention will also be given to developing an understanding of critical aesthetic and historical issues in photography. Students will examine a range of historical and contemporary photowork as an essential part of understanding the possibilities of image making. This course is primarily for freshman and sophomores.

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220. (FNAR620) Producing Ephemera: Letterpress, Risograph, Inkjet, Xerox. (A) Romberger.

This studio course introduces students to the world of printmaking and circulation through techniques in letterpress and Risograph (a high-speed digital printing system developed in Japan in the 1980s), in addition to Xerox, laser, inkjet, and off-set printing, focusing particularly on the format of prints, artists' ephemera, and the role of ephemera in understanding culture.

Students will create their own broadsides, flyers, announcement cards, and independent publications throughout the course, exploring ways in which artists, designers, musicians, and activists make or have made use of the print to disseminate information; initiate happenings; advertise events; or format change. Students will learn about some of the most significant producers working within this realm - from Conceptualists to punk bands - and develop skills in page layout, typography, and design; mechanized and hand-pulled press operations; and digital to analog pre-press and post-print production methods.

This course is designed for highly motivated students and requires out-of-class time commitment. However, no prior coursework is required. Students from all levels and backgrounds are encouraged to register. The course employs combined collaborative / self-directed approaches to learning to enhance students' understandings of ways in which print media and multiples serve as vital conduits for disseminating ideas involving visual art, popular culture, literature, politics, performance and many other topics students will wish to explore.

SM 222. (FNAR622, URBS322) The Big Picture: Mural Arts in Philadelphia. (C)

The history and practice of the contemporary mural movement couples step by step analysis of the process of designing with painting a mural. In addition students will learn to see mural art as a tool for social change. This course combines theory with practice. Students will design and paint a large outdoor mural in West Philadelphia in collaboration with Philadelphia high school students and community groups. The class is co-taught by Jane Golden, director of the Mural Arts Program in Philadelphia, and Shira Walinsky, a mural arts painter and founder of Southeast by Southeast project, a community center for Burmese refugees in South Philadelphia.

227. Writing with Pictures: Children's Picture Books. (C) Edgerton.

A children's picture book is a unique book form in that it is written with pictures. Words, if used at all, serve to illustrate what the picture cannot say. In this course students will learn the complexities of designing what looks to be, a simple picture book for children. Visualizing the story begins with both writing and drawing prompts, image collecting, and exposure to a range of children's literature. Students will learn to sequence a main character and

an environment into a storyboard through stages of changes towards a resolution. By the end of the semester students will have a good understanding of how a picture book works, with a personal "dummy" book well on its way. This course will include two guest artists.

231. (FNAR531) Painting Practices. (C) Prerequisite(s): FNAR 123.

Painting practices is an introduction to the methods and materials of oil painting. This course begins with an investigation of color and color relationships. The beginning of the semester will cover technical issues and develop the student's ability to create a convincing sense of form in space using mass, color, light and composition. The majority of work is from direct observation including object study, still life, landscape, interior and exterior space and the self portrait. Class problems advance sequentially with attention paid to perceptual clarity, the selection and development of imagery, the process of synthesis and translation, color, structure and composition, content and personal expression. Students will become familiar with contemporary and art historical precedent in order to familiarize them with the history of visual ideas and find appropriate solutions to their painting problems.

232. (FNAR532) Painting Studio. (C)

Prerequisite(s): FNAR 231. This course can be continued by registering for FNAR 333 Painting Studio (III), and FNAR 334 Painting Studio (IV).

Painting Studio presents an ongoing exploration of the techniques, problems and poetics of painting, the nuances of the painting language, and the development of a personal direction. A wide variety of problems will address such issues as color, composition, and the development of imagery, process, and content. Students are expected to improve in technical handling of paints and move towards developing personal modes of seeing, interpreting, and thinking for themselves. This course introduces different topics, strategies and individual challenges each semester, so it may be repeated with advanced course numbers.

233. (FNAR633) Digital Illustration. (C)

Prerequisite(s): FNAR 264 and FNAR 123. Course Fee \$75.00.

Digital Illustration is a course designed to expose students to the diverse techniques and approaches used in creating digital illustration for print publication. Course assignments will include two-dimensional animation storyboard rendering, figure

illustration, technical diagram illustration, photographic retouching and enhancing. Digital applications will include morphing with layers, surface cloning, three-dimensional modeling and spatial transformation of scenes and objects. Students completing this course will possess the capability to design and plan creatively and skillfully execute finished artwork.

234. (FNAR634) Art of the Web: Interactive Concepts for Art & Design. (C) Prerequisite(s): FNAR 264. Course Fee \$75.00.

Art of the Web: Interactive concepts for art and design is a first step in learning how to create, analyze and discuss interactive content, as a visual creator. It is an exploration of the culture of the internet, the ideas behind its quirks, the dreams and freedoms it encapsulates, and the creative power it gives to us. Students will be assigned projects that will challenge their current understanding of the web, and the ways it shapes human connectivity and interaction. Upon completion of this course, students will possess a working knowledge how to organize and design websites and learn to critique web-content including navigation, UX design and information ? ?architecture. The course will require analytical and conceptual skills and foster creative thinking.

235. (FNAR635) 3-D Computer Modeling. (C) Prerequisite(s): FNAR 123 and FNAR 264. Course Fee \$75.00.

Students will develop a comprehensive knowledge of how virtual worlds are constructed using contemporary computer graphics technique with a fine arts perspective. The course will offer the opportunity to explore the construction, texturing, and rendering of forms, environments, and mechanisms while conforming to modeling specifications required for animation, real-time simulations or gaming environments, and rapid prototyping.

236. (FNAR536) Digital Figure Modeling. (B) Prerequisite(s): FNAR 235. Course Fee \$75.00.

This course introduces methods of modeling, texturing, and rendering human and animal figures. Students will study anatomical bone and muscle structures, and then employ this knowledge as they develop polygonal models for real-time 3D simulations or gaming environments, high-resolution renderings, and rapid prototyping.

SM 238. (FNAR538) Open Book. (A)

Course Fee \$75.00.

"Open Book" will focus on visual communication of information. It will address two methods of inquiry and the corresponding means of visual representation: the objective, well structured research of facts and images, and the creative process of their subjective evaluation and restatement. Students will propose a topic based on their area of interest and engage in a focused, semester-long exploration, which they will present in the form of a designed and printed book.

SM 239. Photographic Thinking.

This course will explore the vitality and range of photography as a discursive practice by analyzing the way images are structured and deployed in contemporary art and wider media culture. Students will be introduced to the key issues surrounding photography now- led through these questions by lectures, readings, group discussion and project-based work. A series of photo-assignments challenge the students to integrate critical thought with practice, exploring a range of formal strategies and thematic frameworks that affect the meaning of their images. Students should have a strong interest in philosophy and art histories (especially the history of photography.) They should be motivated to work independently & experiment creatively. There are no prerequisites for this course. It is intended for all different levels of technical experience, but the minimum requirements are a digital camera, a basic familiarity with Photoshop and access to a computer with imaging software.

241. (FNAR541) Hand-Drawn Computer Animation. (M)

Prerequisite(s): FNAR 264. Course Fee \$75.00.

Using software tools designed for hand-drawn animation, students will develop animation skills applicable to all forms of animation. In this course students will learn to draw with a sense of urgency and purpose as they represent motion and drama in a series of frames. Through careful study of natural movements, precedents in the history of animation, and through the completion of a series of animation projects students will develop strategies for representing naturalistic movement, inventing meaningful transformations of form, and storytelling.

243. (FNAR543) Figure Sculpture I. (B) Course Fee \$75.00.

An introduction of modeling the human figure in clay. Students will work from the

live model, acquainting themselves with issues of basic anatomy, form and function, and clay modeling. No previous experience is required; drawing experience a plus.

245. (FNAR645) Book and Publication Design. (A) Hyland.

Prerequisite(s): FNAR 264 or permission from the instructor.

Book and Publication Design will focus on the theory and professional practice of designing multi-page publications.

Students will analyze formal structures of different types of books-literature and poetry, fiction and non-fiction compilations, illustrated volumes such as art catalogues, monographs and textbooks, and serial editions-discussing both traditional and experimental approaches. The format of the course will be split between theoretical and historical evaluations of book formats by drawing on the Van Pelt Rare Book Collection-and studio time where students will design books with attention to the format's conceptual relationship to the material at hand with a focus on typography and page layout, as well as on understanding production methods of printing and binding. In addition to the conventions of page layout students will examine paratextual elements (title page, practices of pagination and other internal structuring, content lists and indexes, colophons, notes and marginalia, end-leaves, binding, etc.).

247. (FNAR547) Environmental Animation. (B) Landau. Prerequisite(s):

Experience in landscape architecture, architecture, animation, programming, film, Photoshop, or graphic design is strongly encouraged but not required.

This studio-based course examines the disciplinary spaces of landscape, art, and architecture through the medium of 3D animation and storytelling. We immerse ourselves in environments that may be as small as a cell or as large as a planet. From the refiguring of images, models, graphic design, or video to visualization or coding the genesis of whole environments, this course will allow for a variety of entry point for students of different disciplines and skill levels. Projects will range in scope from animated GIFs to animated shorts.

This course embraces a spirit of invention, collaborative learning, and interdisciplinary cross-pollination. Experience in landscape architecture, architecture, animation, programming, film, GIS, and/or graphic design is encouraged. We will examine and discuss some standard typologies such as the walk-

through, data-visualization, as well as filmic and avant garde strategies as starting points for creative reinterpretation of space. We will primarily be using 3D Studio Max and After Effects with support from Next Engine 3D Scanner, Rhino, and Grasshopper. Scripting will be included in most assignments to enhance artistic control of the software.

250. (FNAR550, VLST250) Introduction to Printmaking. (B)

Course Fee \$75.00.

The course offers an introduction to several forms of printmaking including: intaglio, screen printing, relief, and monoprinting. Through in-class demonstrations students are introduced to various approaches to making and printing in each medium. The course enhances a student's capacity for developing images through two-dimensional design and conceptual processes. Technical and conceptual skills are developed through discussions and critiques.

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251. (FNAR551) Printmaking: Etching. (C) Course Fee \$75.00.

The class will challenge the possibilities of experimental drawing and ways of creating incisions and textures using copper plates as the matrix, which then will be printed on paper and other materials. The class offers full technical and historical description of each individual process: Dry Point, Etching, Hard ground, Soft Ground, Aquatint, Shine Cole', Spit-Biting, Sugar Lift, Color Printing and Viscosity printing.

252. (FNAR552) Printmaking: Relief & Screen Printing. (C) Course Fee \$75.00.

This course is an introduction to technical skills and investigative processes in screen printing and relief and examines methods for combining digital technology with traditional print media. The course introduces students to several contemporary applications of silkscreen and relief printmaking including techniques in multi-color printing, photo-based silkscreening, digital printing, woodcut, linocut, and letterpress. Demonstrations include photo and image manipulation, color separating and output techniques, hand carving and printing, as well as drawing and collage. Both traditional and experimental approaches are explored and encouraged and technical and conceptual skills are developed through discussions and critiques.

253. (FNAR553) Advanced Projects in Printmaking. (B) Prerequisite(s):

FNAR 252 or FNAR 257 and FNAR 251. Course Fee \$75.00.

This course will concentrate on expanding imagery in print media. The course requires the proposal of a directed final project to be developed during the semester. Three initial exploratory projects will culminate in the final. Projects are open to all print media, but there will be an emphasis on screen printing. Techniques will be addressed as they serve the needs of ideas rather than a set technical procedure. Through individual consultation, scheduled class critiques, and field trips, attention will be given to studio work in and out of printmaking so that the technical and conceptual strengths of print media can serve as a worthwhile adjunct to an overall studio practice.

254. (FNAR654) Printmaking & Publications: Intro to Independent Publishing and Artists' Publications. (B) Romberger.

This course introduces students to independent publishing and artists' publications through print methods in letterpress, Risograph, and Xerox. The class will focus on the self-published artists' zine/book as an affordable, accessible, and easily reproducible format for exploring ideas, disseminating artists' work, and collaborating across disciplines. Students will learn a range of skills, including techniques in both mechanized and hand-pulled forms of printed media (Risograph, copy machine, Vandercook letterpress); short-run editions and binding; design and layout; pre-press and print production; and the web as it relates to and supports independent and democratic modes of distribution. Students will learn about and become acquainted with some of the most significant independent publishers working today and throughout history. Students will leave class having completed three individual projects: a 16-page booklet/zine; a carefully considered online publication, and a final collaborative book designed, developed and published as a class. The course commences with a field trip to New York City's Printed Matter, one of the oldest and most important nonprofit facilities dedicated to the promotion of artists' books, where students will be encouraged to submit a publication by semester's end.

257. (FNAR557) Printmaking: Mixed Media. (C) Course Fee \$75.00.

This course will explore the interplay of analog and digital processes and products of printing through various media,

technology and conceptual approaches. In this changing world of communication, explore the intersection of old and new media to fabricate new and experimental design for print media. Using the printshop, the computer, and the equipment in the fabrication lab as our interface for exploration, we will focus on text and image relationships by integrating design, typography, print, and digital systems in a printing workshop environment. This course begins with an exploration of processes and experimentation, resulting in the creation of an edition that is conceptually centered on individual interests that engage the senses, the imagination, and the intellect.

258. (FNAR558) Introduction to Clay: the Potter's Wheel and Beyond. (C) FNAR Faculty. Course Fee \$75.00.

This introductory clay class, students will learn all the fundamental skills needed to create three-dimensional forms in clay using a variety of methods: wheel throwing, handbuilding (such as coil building and slab construction), and press molding. Whether creating utilitarian forms or creating sculpture, projects are designed to strengthen both craftsmanship and individual creativity. In addition to developing a working knowledge of the ceramic process, including surface treatments and glazing, students will also be introduced to design issues as well as contemporary art/ceramics topics that influence our aesthetic sensibilities. No prerequisites.

259. (FNAR559) Beginning Clay: Handbuilding and Casting Techniques. (C) FNAR Faculty. Course Fee \$75.00.

Modeling and casting are fundamental methods of object-making. Students will learn basic handbuilding techniques such as coil building, slab construction, and mold making through assignments that incorporate conceptual and technical issues. Through experimentation with these methods, this course promotes an understanding of materials, processes, visual concepts, and techniques for creating three-dimensional forms in space. In addition to using different water-based clays and plaster, other materials such as wax, plastiline, paper pulp, cardboard, and tar paper will be explored. No prerequisites.

263. (FNAR563) Advanced Wheel Studio. (C) Prerequisite(s): FNAR 261. Course Fee \$75.00.

This course teaches students more advanced wheel throwing techniques while

helping to develop their critical skills in other areas of ceramic work. Students will learn to throw, employing larger masses of clay, and to increase the complexity of their work by combining and altering thrown parts. There will be an emphasis on experimentation in surface treatment and design, the goal of which is to expand a student's ability to create more complicated and personalized clay works. In addition to learning the technical knowledge, there will be critical discussions of contemporary ceramics issues through image presentations, reading materials and field trips.

264. (FNAR636, VLST264) Art, Design and Digital Culture. (C) Course Fee \$75.00.

This course is an introduction to the fundamental perception, representation, aesthetics, and design that shape today's visual culture. It addresses the way artists and designers create images; design with analog and digital tools; communicate, exchange, and express meaning over broad range of media; and find their voices within the fabric of contemporary art, design, and visual culture. Emphasis is placed on building an extended form of visual literacy by studying and making images using a variety of representation techniques; learning to organize and structure two-dimensional and three-dimensional space, and designing with time-based and procedural media. Students learn to develop an individual style of idea-generation, experimentation, iteration, and critique as part of their creative and critical responses to visual culture.

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266. (FNAR566) Graphic Design with Creative Technologies. (C) Prerequisite(s): FNAR 264/636. Course Fee \$75.00.

The aim of this course is to introduce students creative ways to use color, typography, and layout across new materials and media, ranging from print to physical objects. Students will explore visual design through a set of assignments and projects that are geared towards exploring the role of design in visual arts, interaction design, media design and architecture. The course introduces a number of design concepts such as content organization, navigation, interaction and data-driven design and show ways to develop new design metaphors, presentation techniques, and imagery using old and new technologies. course is structured as a combination of lectures and

hands on workshops where students will have the chance to work both individually and collaboratively to realize their projects.

267. (CIMS267, FNAR567) Computer Animation. (C) Prerequisite(s): FNAR 264. Course Fee \$75.00.

Through a series of studio projects this course introduces techniques of 2D and 3D computer animation. Emphasis is placed on time-based design and storytelling through animation performance and montage. Students will develop new sensitivities to movement, composition, cinematography, editing, sound, color and lighting.

268. (FNAR568, IPD 568) Integrative Design Studio: Biological Design. (C) Prerequisite(s): FNAR 264. Course Fee \$75.00.

This course is a research-based design studio that introduces new materials, fabrication, and prototyping techniques to develop a series of design proposals in response to the theme: Biological Design. The studio introduces life sciences and biotechnologies to designers, artists, and non-specialists to develop creative and critical propositions that address the social, cultural, and environmental needs of the 21st century. The course will be a pilot study of the first biodesign challenge organized by CUT/PASTE/GROW. The final projects will be submitted to a competition and the winning entry will be featured at Biofabricate in Summer 2017.

269. (FNAR569) Typography. (C) Prerequisite(s): FNAR 264. Course Fee \$75.00.

The study and practice of typography spans the history of individual letterforms through the typesetting of full texts. It is a complete immersion into type as an integral part of visual communication. Typesetting conventions and variables including legibility, readability, texture, color and hierarchy will be stressed, as well as a form for organizing information and expressing visual ideas. Studio work will include collecting and analyzing type, designing an original typeface, researching type history and experimenting with typographic forms.

270. (FNAR570) Graphic Design Practicum. (C) Prerequisite(s): FNAR 266 or FNAR 269. Course Fee \$75.00.

Practicum provides a real world experience for students interested in solving design problems for non-profit and community organizations. The studio works with two clients each semester, and previous projects have included print design, web design, interpretive signage and exhibit

interactives. All projects are real and will result in a portfolio-ready finished product. Students will participate in a full design experience including design, client interaction, presentations, production, and project management. In addition, students will take field trips, meet professionals and go on studio visits.

271. (FNAR571, VLST251) Introduction to Photography. (C)

Prerequisite(s): None. Course Fee \$75.00.

This course is an introduction to the basic processes and techniques of black & white photography. Students will learn how to expose and process 35mm film, SLR camera operation, darkroom procedures & printing, basic lighting and controlled applications. It begins with an emphasis on understanding and mastering technical procedures and evolves into an investigation of the creative and expressive possibilities of making images. This is a project-based course, where students will begin to develop their personal vision, their understanding of aesthetic issues and photographic history. Assignments, ideas and important examples of contemporary art will be presented via a series of slide lectures, critiques and discussion. No previous experience necessary. 35mm SLR cameras will be available throughout the semester for reservation and checkout from the photography equipment room.

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SM 272. (FNAR572) Advanced Photography: Integrated Techniques and Strategies. (C)

Prerequisite(s): FNAR 271 or Permission From Instructor. Course Fee \$75.00.

This studio course seeks to broaden each student's skills by experimenting with a wide range of photographic media. Advanced analog, digital and experimental lens-based techniques will be covered, as well as larger camera formats to expand their vocabulary as image-makers. Emphasis will be on an integrated experience of the photographic medium and the development of a body of work that is both theoretically and historically informed. The course will be a means to view and discuss various strategies of important contemporary photographers. Focused assignments, readings, slide lectures and gallery visits will supplement each student's artistic practice and research.

SM 274. (FNAR574) Reconfiguring Portraiture. (B)

Prerequisite(s): FNAR 271 or FNAR 340 or Permission of Instructor. Course Fee \$75.00.

As methods of representation are constantly shifting, one thing is clear - the photographic portrait is not what is used to be. Exploring both traditional and contemporary methods of portraiture, this class will uncover and discuss the ways in which we perceive each other in imagery, both as individuals and as groups. Throughout the semester, we will consider how portraits deal with truth, physical absence, the gaze, cultural embodiment, voyeurism and the digital persona. This course will build on the combination of perception, technology, and practice. Throughout the semester, students will advance by learning lighting techniques and strategies of presentation - as these core skills will become tools in the execution of project concepts. In tandem with each project, students will encounter and discuss a wide array of photography and writings from the past to the present, in an effort to understand the meanings and psychological effects of freezing the human image in time.

SM 278. (FNAR578) Documentary Strategies. (C)

Prerequisite(s): FNAR 271 or FNAR 340 or Permission from Instructor. Course Fee \$75.00.

This course offers a context for photographers to develop a documentary project - either within a traditional photojournalistic framework or one that challenges these traditions. The aim is to understand documentary as an evolving practice and to develop an artistic response when depicting our social reality- from everyday experience to the events that shape the world. An important aspect of the class will be examining the diversity of ways that journalists and artists have used the camera to extend and question the power of photography as document. The class will address key questions of media and mediation, the nature and status of documentary in the context of globalizing media and how traditional documentary work has been affected by video, performance, conceptual art and activism.

279. (FNAR679) Studio Lighting. (B)

Wahl. Prerequisite(s): FNAR 271 or Permission of Instructor. Course Fee \$75.00.

The necessity of light and how light is rendered in relationship to what is seen and understood, is often a key ingredient in the portrayal of a subject. The origin of the still life can be found in images as far back as antiquity and has dealt with notions of

death, science, class, social customs and even sex. Photography picked up on the tradition in 1827 and has not only made use of the form, but has expanded the topic into very unique territories. Contemporary artists have re-invented and re-invigorated the still life, formalism & abstract photography. As a framework for exploring 'hands-on' lighting techniques, students will creatively grapple with the photography of objects in the studio. Working with the physical, symbolic, and conceptual ramifications of depicting specific forms in an image, teamed with the discussion of key texts, critiques, and studio lighting seminars, each student will create a considered and unique portfolio of images.

280. (FNAR580) Figure Drawing I. (C)

Prerequisite(s): FNAR 123. Course Fee \$75.00.

Students work directly from the nude model and focus on its articulation through an understanding of anatomical structure and function. Students will investigate a broad variety of drawing techniques and materials. The model will be used as the sole element in a composition and as a contextualized element.

281. (FNAR581) Figure Drawing II. (C)

Prerequisite(s): FNAR 280. Course Fee \$75.00.

Figure Drawing II is an advanced class designed to further develop the student's skill and facility in capturing the human form. Content and conceptual issues will be explored through individualized projects concentrating on the figure. Students will also expand on their knowledge of drawing media and application.

SM 282. (FNAR582) Advanced Topics in Photography: Site, Space and Documentation. (A)

Prerequisite(s): FNAR 271 or FNAR 340 or Permission from Instructor. Course Fee \$75.00.

This course will challenge students to create immersive environments and activated spaces through interdisciplinary means. Students will be working on individual as well as collaborative projects; they will be encouraged to incorporate different media with photography and explore the various methods and materials of installation. They will learn how to develop and present professional proposals and experiment with different modes of documentation. We will examine the history of Installation Art with an emphasis on contemporary trends and important emerging artists. Topics of discussion will range from site-specificity/architecture, Social Practice models and performance-

oriented residue. The course culminates with a public presentation—an exhibition of student projects created for specific sites on campus.

284. (FNAR684) Photography and Fashion. Prerequisite(s): FNAR 271 or FNAR 340 or Permission from Instructor. Course Fee \$75.00.

Since the invention of photography, the fashion industry has been one of the cornerstones of creative expression, innovation and visionary provocation. Contemporary fashion photography has continued to attract a leading group of image-makers that continue the tradition of creating artwork that not only is being published in cutting edge magazines such as *V*, *Another Magazine* and *Citizen K*, but also are exhibiting their work in various galleries and museums around the world. This course is designed for students who are interested in creating contemporary fashion images through specific assignments that define the process: lighting in studio or location, working with fashion designers, stylists, models, hair/makeup artists, and the application of a variety of post production techniques, via Photoshop. The class will explore modern constructs that define the importance of branding, marketing, advertising and the relationship of fashion photography in contemporary art and culture today.

285. (FNAR685) Photography and Fiction. (B) Diamond. Prerequisite(s): FNAR 271 or FNAR 340 or Permission from the Instructor.

In spite of photography's traditional relationship with fact, the medium has been a vehicle for fiction since the very beginning. Fiction and photography encompass a broad range of meanings, from elaborately staging and performing for the camera, to manipulations using digital technology such as Photoshop to construct the work. This class will examine and trace the history of manipulated photography while paying special attention to the complex negotiations between the decisive moment, the constructed tableau, and the digitally manipulated image. There will be a combination of class lectures, studio projects, assigned readings, visiting artists, film screenings, field trips, and class critiques.

286. (FNAR686) Visual Narrative. (A) Comberg and Diamond.

Visual Narrative is an introduction to the practice of storytelling with images. From news and information to art, law, and science, visual storytelling is a critical aspect of creating and navigating

contemporary culture. This course is situated at the intersection of design, art, and visual culture, focusing on relevant forms and topics including the photo essay, information design and visual explanation, the photographic sequence in contemporary art, scenario design and concept visualization.

Visual Narrative focuses on traditional as well as emerging modes of production and distribution for documentary, visual storytelling, and photojournalism, exploring new aesthetics and the social impact of visual narratives.

Visual Narrative immerses students in the study of narrative craft and creation of visual stories covering topics relevant to designers and photographers. Beginning with the photo series and the photo documentary tradition, the course evolves through multimedia narrative and non-narrative forms. Students will explore principles of narrative construction in design and photography through lecture, studio projects, and with presentations by visiting artists, designers, and photographers. Students will work within and across disciplines of art, design, and visual journalism, exploring topics including context, cause and effect, time, space, flow, picture-to-picture relationships, sequence, visual hierarchy, and linearity. Study of non-narrative systems - categorical, rhetorical, abstract, and associational forms - as well as interactive narratives will also be included.

289. (CIMS289, FNAR589) Mixed Media Animation. (C) Prerequisite(s): FNAR 123 and FNAR 264. Course Fee \$75.00.

Mixed Media Animation is a contemporary survey of stop-motion animation concepts and techniques. Students use digital SLR cameras, scanners and digital compositing software to produce works in hand-drawn animation, puppet and clay animation, sand animation, and multiplane collage animation. Screenings and discussions in the course introduce key historical examples of animation demonstrating how these techniques have been used in meaningful ways. Students then learn how to composite two or more of these methods with matte painting, computer animation or video.

SM 310. Critical Issues in Art. (B) Diamond.

Perspectives on Critical Issues aims to engage students in an ongoing and informed study of both historical and contemporary issues in a spirit of curiosity and critique. We will investigate how these concepts can clarify and complicate our

creative practice and our understanding of the contemporary art world. This seminar will explore the shifts in artistic production, theory and criticism and topics will range from traditional investigations of aesthetics, Modernism, Post-Modernism and contemporary themes.

Through discussions of assigned readings, class presentations, films, lectures, and field trips, this seminar will help establish a critical and theoretical foundation where your own beliefs and doubts about art and culture will be called into question and will provoke an ongoing inquiry into how you understand art, your own creative process, and the relationship of art and artists to society and creative culture.

SM 315. (ENGL119, FNAR615) Across Forms: Art and Writing. (A) Hayes and Zolf.

What if a poem spoke from inside a photograph? What if a sculpture unfurled a political manifesto? What if a story wasn't just like a dance, but was a dance—or a key component of a video, drawing, performance, or painting? In this course, artists and writers will develop new works that integrate the forms, materials, and concerns of both art and writing. Many artists employ writing in their practices, but may not look at the texts they create as writing. And many writers have practices that go beyond the page and deserve attention as art. This course will employ critique and workshop, pedagogic methodologies from art and writing respectively, to support and interrogate cross-pollination between writing and art practices. Additionally, the course will examine a field of artists and writers who are working with intersections between art and writing to create dynamic new ways of seeing, reading, and experiencing.

SM 320. (ARTH301, CIMS320, CIMS393, ENGL291) Topics in Animation. (A) Staff.

This course will look at animation as an art form, a technology and an industry. We will explore the way in which artistic, technical, historical, and cultural conditions shape the development of animation and in turn, how animation impacts viewers. Topics will include trends in animation and their relation to contemporary popular culture, issues of art versus commerce in the creation of cartoons, the intersection of animation and politics, and shifts in style and technique throughout the years. We will look at the figures who have shaped the art forms and continue to influence it, the rise in animation's popularity, and

current day applications of animate imagery.

SM 325. Drawing Seminar. (A) Matt Neff. Prerequisite(s): FNAR 123 or permission by instructor.

This seminar explores drawing practices as both a concrete and metaphorical, as space for conversation and questioning, and as a way to expand the boundaries of drawing. Using readings, films, class trips, independent research, and discussions, students will learn about themes in contemporary art relating to drawing, and its historically close relationship with interdisciplinary studio practices. Through studio-based projects, students will explore drawing's varied forms: perceptual, digital, time-based, performative, schematic, sculptural, and interactive. These projects will build on perceptual drawing skills and explore a wide use of traditional and non-traditional methods, tools, and materials.

SM 330. (FNAR530) Making Space and Public Art. (A) Lum.

The French social philosopher Michel de Certeau upset the common understanding of the relationship between space and place by elevating space as practice place. By this, he meant that place is but a set of geo-physical particularities that has no dynamic meaning unless activated through social engagement so that space is produced. Spatial practice is a key concept in the modern understanding of the city as a society of abstract space, one in which the problem of human alienation is riven with the logic of spatial spectacularization. Public Art is often employed to address or mollify such urban problems through concepts of historical reconstruction or institutional critique, including possibly testing the limits of public expression. Historical markers play a somewhat different role by calling attention to lost or negative histories, albeit most often vetted through the language of tourism factoids. This course will examine the discursive issues at play in respect to art and markers, particularly for Philadelphia. Additionally, important public art works from around the world will be examined. The course will also include the occasional visit of several key works downtown in which the question of what can and cannot said will be pondered.

331. (FNAR631) Interdisciplinary Studio: Sites of Convergence and Hybridity. (B) Tileston. Prerequisite(s):

One previous studio course (such as FNAR 123, FNAR145, FNAR150, FNAR 231 or FNAR 264) or permission from the instructor.

This course takes an experimental multimedia approach to investigating some of the boundaries in contemporary art making practices. Painting, photography, video, design and sculpture intersect, overlap, and converge in complicated ways. Projects will be designed to explore hybrid forms, collage, space/ installation, and color through a variety of strategic and conceptual proposals as students work towards unique ways of expanding their own work. Weekly readings, critiques, and presentations will be integrated with studio projects. This studio/seminar is appropriate for students at all levels and from all areas of Fine Arts and Design.

334. (FNAR534) Painting Studio. (C)

Prerequisite(s): FNAR 123 and FNAR 333.

Painting Studio IV focuses on continuing the student's exploration of techniques, problems, and poetics of painting, the nuances of the painting language, and the development of a personal direction. While students may choose to work on assigned projects (either in consultation with the instructor following the projects that the Painting II/III students may be involved in), the emphasis is on the investigation of the student's own sensibility. Students will be expected to engage in ongoing critical analysis of their own practices and assumptions.

337. (FNAR637) Information Design and Visualization. (C) Prerequisite(s):

FNAR 264. Course Fee \$75.00.

Information Design and Visualization is an introductory course that explores the structures of information (text, numbers, images, sounds, video, etc.) and presents strategies for designing effective visual communication appropriate for various users and audiences. The course seeks to articulate a vocabulary of information visualization and find new design forms for an increasingly complex culture.

SM 338. (FNAR638) Creative Research. (A) Telhan. Course Fee \$75.00.

This seminar explores what it means to do research in creative and critical practices. Students learn about different research methods from design, engineering, humanities and sciences; utilize them for developing and evaluating their individual creative work as cultural producers. This is

an interdisciplinary course that encourages students to observe, measure, analyze, test, study, experiment, diagram, prototype, speculate, generate and criticize; apply multiple modes of inquiry; be conceptual, analytical, propositional and critical at the same time to develop their work from different perspectives.

340. (FNAR640, VLST265) Digital Photography. (C) Course Fee \$75.00.

This class offers an in-depth technical and conceptual foundation in digital imagery and the opportunity to explore the creative, expressive possibilities of photography. Students will become proficient with the basic use of the camera, techniques of digital capture, color management and color correction. They will also develop competency in scanning, retouching, printing and a variety of manipulation techniques in Photoshop. Through weekly lectures and critiques, students will become familiar with some of the most critical issues of representation, consider examples from photo history, analyze the impact of new technologies and social media. With an emphasis on structured shooting assignments, students are encouraged to experiment, expand their visual vocabulary while refining their technical skills. No previous experience is necessary. Although it is beneficial for students to have their own Digital SLR camera, registered students may reserve and checkout Digital SLR cameras and other high-end equipment from the department.

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SM 343. (FNAR643) Language of Design. (B)

The course will explore the changing relationship during the modern era between design(structure, model, plan of a work of art) and language (metaphor for a system of communication; speech, writing, literature). Our readings and visual presentations will focus on topics in the decorative arts, painting, architecture, typography and visual communication. We will focus on primary sources in order to situate our inquiry in a larger historical context. The discussion will center on claims about the inherent meaning of form, discuss different roles for design -as an ideological statement, as an agent of social change, and as an idiosyncratic expression. Topics will also include the search for a universal visual language, attempts at bridging the perceived gap between spoken and written language, and the impact of visual form on the meaning of literary texts (particularly when the author has been involved in the

publication process). Students can suggest additional topics related to their field of study.

347. (FNAR647) Expanded Documentary. (B) Davenport.

Prerequisite(s): FNAR-061 or FNAR-271 or FNAR-340 or permission from instructor. Course Fee \$75.00.

The sites and situations of documentary in our culture have exploded exponentially - from standardized formulas (like reality tv), to social media and cross-platform journalism. In contemporary art, documentary practice has also significantly expanded and diversified. Since the early 2000's, with several influential exhibitions following Documenta XI, a new generation of artists have taken up the ambition of depicting our social reality, and have done so by re-engaging and re-inventing the documentary mode. This intermediate course will examine this vital contemporary field and will also offer students a comprehensive introduction to the history of documentary practice. We will investigate a series of key questions regarding the relation between politics and aesthetics, mediums and mobility, how documents function to both approximate and deny a sense of 'reality' and perhaps most importantly-what kinds of social, political or personal realities you want to propose in your artwork. The class will be driven by a series of studio assignments and practical experimentation. Although there will be an emphasis on photography and video, students will also explore a multiplicity of strategies and forms (including archival display, essayistic installation, image-text relationships, and the documentation of performance.)

348. (FNAR648) Counter the Land: Photography and the Landscape. (A)

Wahl. Prerequisite(s): FNAR 271 or FNAR 340 or with permission from the instructor.

Starting with the representation of landscape in painting in the early 1800s, the course will then move through Pictorialism and the Modernist movement in photography. Revisiting the later half of the 20th century, we will begin to consider the shifting practices of landscape and the ways it has been photographically depicted up to the present. Collaborating with the Brandywine River Museum of Art in Chadds Ford, students will begin their photographic exploration with the work of Andrea Wyeth and the landscape of the Brandywine Valley. As we consider Wyeth, the images of James Welling will also be introduced. Credited for pioneering new forms of representation in photography in the 1970s, Welling also revisited the

work of Wyeth from 2010-2015, and committed to a fresh (and challenging) look at tradition.

Working with imagery and text, this class will also touch on conceptual art, the New Topographics, and postmodernism. Through these various concentrations, students will consider and counter the traditions that they are already familiar with, while creating work based on issues of the landscape today. Questions about meaning, politics, social critique, land rights, technology and methods of presentation will be encouraged and explored throughout the course.

349. (FNAR649) Advanced Digital Photography. (C) Prerequisite(s): FNAR 340. Course Fee \$75.00.

In this studio course, students will become proficient in advanced techniques of image production while expanding their artistic process and refining their photographic work. With an emphasis on self-directed projects and research, students will further their knowledge of image control and manipulation, retouching and collage, advanced color management; become familiar with high-end equipment and develop professional printing skills. Class discussion, lectures and assigned readings will address the critical issues in contemporary art, media and photographic culture. Emphasis will be on integrating practice and critical dialogue.

350. (FNAR650) Shared Culture: New Strategies for Artists in the Digital Age. (B) Goldsmith. Fine Arts Majors or MFA students ONLY or permission of instructor.

Our digital world has forced us to entirely rethink what it means to be an artist in the digital age, socially, economically, and politically. Ideas that have long been stable - including originality, creativity, and genius - are ripe for reexamination and redefinition in the twenty-first century. When the entire internet is copy- and-pasteable - and distribution moves swiftly - is anything off limits for the artist? Can we imagine our artistic production mimicking the meme, rippling through the networks for a day, then disappearing forever? Are we doomed to make works that are supposed to live for eternity or, in the face of environmental meltdown and collapsing financial markets, can we instead move our production toward the ephemeral? What would this look like? Can our output be steered toward the political? Can we frame these ideas as acts of resistance? Or compliance? Is there an inside? Is there an outside?

353. (CIMS353, FNAR653) Advanced Projects in Animation. (B)

Prerequisite(s): FNAR 235 and FNAR 267, or Instructor Permission.

Students will explore facial animation at great depth. Investigating both skeletal and muscular anatomy, students will implement their knowledge in the creation of facial rigs and realistic animation of 3D computer characters. Strong emphasis will be placed on drawing and acting skills to achieve a successful working knowledge of both form and function. As an advanced seminar course, students are expected and encouraged to work and explore topics outside of the classroom.

366. (FNAR646) Advanced 3-D Modeling. (C) Prerequisite(s): FNAR 235/365 or FNAR 236/536. Course Fee \$75.00.

Advanced 3-D Modeling will give students the opportunity to refine skills in modeling, texturing, lighting and rendering with an emphasis on the evolution of ideas through constant revision based on class critique. Students will use a variety of industry standard software packages, including, but not limited to Maya and Mudbox to compose complex environments. Projects are designed to give students the opportunity to work with original content within a simulated production environment.

370. (FNAR670) Advanced Graphic Design and Typography. (A)

Prerequisite(s): FNAR 266 and FNAR 269 or Permission of Instructor. Course Fee \$75.00.

This course will explore advanced commercial, public and personal forms of visual communication. Emphasis will be placed on creative problem solving with consideration for audience. Discussion of design history, current ideology and future design applications will inform individual student projects. Work generated in this studio can be used to build a portfolio.

378. (FNAR678) Interfacing Cultures: Designing for Mobile, Web and Public Media. (B) Prerequisite(s): FNAR 234. Course Fee \$75.00.

This course introduces advanced topics related to contemporary media technologies, ranging from social media to mobile phones applications and urban interfaces. Students learn how to use new methods from interaction design, service design, and social media and work towards prototyping their ideas using new platforms and media. The class will cover a range of topics such as such as online-gaming, viral communication, interface culture, networked environments, internet of things

and discuss their artistic, social, and cultural implications to the public domain.

399. Independent Study. (C)

Prerequisite(s): See Department for section number. A minimum three-page proposal must be submitted and approved by both the Instructor and the Undergraduate Director.

SM 488. Senior Seminar and Project (Fall Semester). (A) Prerequisite(s): Fine Arts Majors in Senior Year only.

This rigorous pair of courses, one offered in the Fall and one offered in the Spring semester, are designed as the capstone of the Fine Arts major and are required for all graduating fine arts seniors. They can only be taken in the senior year. Students work in individual studio spaces provided by the department and then meet with faculty for seminar, critique, and professional practice exercises. Through individual and group critiques, students begin to conceptualize their final thesis exhibition or project. The senior seminar allows students to create lasting professional relationships with the fine arts faculty and visiting lecturers. The fall semester culminates in a group exhibition of senior student work paired with final semester critiques.

SM 489. Senior Seminar Project. (B)

Prerequisite(s): FNAR 488; Fine Arts Majors in Senior Year only.

The Spring semester seminar culminates in a senior thesis exhibition for each graduating student. These exhibitions have traditionally been held as a small group exhibition featuring a few students in one group, or as a larger end of semester exhibition with each student installing a series of works. The format of the exhibition will be determined during the fall semester by the senior faculty. The process of preparing, installing, and promoting the thesis exhibition is covered in detail throughout the semester. Students will work in their on-campus studio spaces to produce dynamic, thoughtful and well-crafted work that will serve as their final portfolio. They will present their portfolio of work during a final critique before graduation.

501. Graduate Studio I. (A)

Lum/Freedman/Mosley/Telhan/Tileston.

First year studio for MFA students' core pursuit of self-directed interdisciplinary problems that contribute to one or more of the visual arts disciplines.

502. Graduate Studio II. (B)

Adkins/Davenport/Freedman/Mosley/Telhan/Tileston.

Second year studio for MFA students' core pursuit of self-directed interdisciplinary problems that contribute to one or more of the visual art disciplines.

515. Photography Studio Abroad. (K)

Prerequisite(s): Permission of Instructor Required - Competitive Application Process Only.

This Traveling Studio is offered every other spring term to upper level photography & related media students. It is a cross-cultural visual investigation, exploring the contradictions and significance of the chosen city. This course incorporates multi-disciplinary research in preparation for the trip; exploring various fields of knowledge production such as art, history, social sciences, markets and governance. Class discussion, readings and individual research will be focused towards the development of each student's photo/media project, which will be realized while abroad. After returning to Philadelphia, students will develop and refine their work; the remaining classes will emphasize critique, editing, printing and presentation options. The final projects will be included in a group exhibition at the end of the semester. Admission to the course is on a competitive basis.

523. (FNAR123, VLST253) Drawing I. (C)

This course is designed to develop visual awareness and perceptual acuity through the process of drawing. Students learn to sharpen perceptual skills through observational drawing, and to explore the expressive potential of drawing. A variety of problems and media will be presented in order to familiarize students with various methods of working and ways of communicating ideas visually. Subject matter will include object study, still life, interior and exterior space, self-portrait and the figure. Different techniques and materials (charcoal, graphite, ink, collage) are explored in order to understand the relationship between means, material and concept. Critical thinking skills are developed through frequent class critiques and through the presentation of and research into historical and contemporary precedent in drawing.

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524. (FNAR124) Drawing Investigations. (C) Prerequisite(s): FNAR 523.

Drawing is a fundamental means of visualization and a hub for thinking, constructing, and engaging in a wide variety of creative activities and problemsolving. This studio class explores drawing in both its traditional and contemporary forms. The projects are designed to help students in all disciplines find ways express and clarify their ideas through the process of drawing. The semester begins with the refinement of perceptual skills acquired in Drawing I, while encouraging experimentation through the introduction of color, abstract agendas, conceptual problem solving, and collaborative exercises, as well as new materials, techniques and large format drawings. Particular attention is given to ways to conduct visual research in the development of personal imagery. Assignments are thematic or conceptually based with ample opportunity for individual approaches to media, subject, scale and process. The goal is to strengthen facility, develop clarity in intent and expand expression. Attention is paid to the development of perceptual sensitivity, methods of image construction, and the processes of synthesis and transformation in order to communicate ideas through visual means. Recommended for students in all areas.

526. (FNAR126) Sequential Drawing. (B) Prerequisite(s): FNAR 523.

Sequential drawing instructs in the visualization of story telling through the exploration of visual narrative components (visual iconography, panel- to-panel transition types, picture/word relations) and their application to a narrative through the use of formal drawing techniques (composition, color, perspective, line, form). The class begins with various exercises in paneling, pacing and style development, and concludes with the student applying the concepts and techniques they've acquired to the creation of a graphic novel.

SM 530. (FNAR330) Making Space and Public Art. (A) Lum.

The French social philosopher Michel de Certeau upset the common understanding of the relationship between space and place by elevating space as practice place. By this, he meant that place is but a set of geo-physical particularities that has no dynamic meaning unless activated through social engagement so that space is produced. Spatial practice is a key concept in the modern understanding of the city as a

society of abstract space, one in which the problem of human alienation is riven with the logic of spatial spectacularization. Public Art is often employed to address or mollify such urban problems through concepts of historical reconstruction or institutional critique, including possibly testing the limits of public expression. Historical markers play a somewhat different role by calling attention to lost or negative histories, albeit most often vetted through the language of tourism factoids. This course will examine the discursive issues at play in respect to art and markers, particularly for Philadelphia. Additionally, important public art works from around the world will be examined. The course will also include the occasional visit of several key works downtown in which the question of what can and cannot be said will be pondered.

531. (FNAR231) Painting Practices. (C) Prerequisite(s): FNAR 523.

Painting practices is an introduction to the methods and materials of oil painting. This course begins with an investigation of color and color relationships. The beginning of the semester will cover technical issues and develop the student's ability to create a convincing sense of form in space using mass, color, light and composition. The majority of work is from direct observation including object study, still life, landscape, interior and exterior space and the self portrait. Class problems advance sequentially with attention paid to perceptual clarity, the selection and development of imagery, the process of synthesis and translation, color, structure and composition, content and personal expression. Students will become familiar with contemporary and art historical precedent in order to familiarize them with the history of visual ideas and find appropriate solutions to their painting problems.

532. (FNAR232) Painting Studio. (C) Prerequisite(s): FNAR 531. This course can be continued by registering for FNAR 533 Painting Studio (III), and FNAR 534 Painting Studio (IV).

Painting Studio presents an ongoing exploration of the techniques, problems and poetics of painting, the nuances of the painting language, and the development of a personal direction. A wide variety of problems will address such issues as color, composition, and the development of imagery, process, and content. Students are expected to improve in technical handling of paints and move towards developing personal modes of seeing, interpreting, and thinking for themselves. This course

introduces different topics, strategies and individual challenges each semester, so it may be repeated with advanced course numbers.

534. (FNAR334) Painting Studio. (C) Prerequisite(s): FNAR 523 and FNAR 533.

Painting Studio IV focuses on continuing the student's exploration of techniques, problems, and poetics of painting, the nuances of the painting language, and the development of a personal direction. While students may choose to work on assigned projects (either in consultation with the instructor or following the projects that the Painting II/III students may be involved in), the emphasis is on the investigation of the student's own sensibility. Students will be expected to engage in ongoing critical analysis of their own practices and assumptions.

536. (FNAR236) Digital Figure Modeling. (B) Prerequisite(s): FNAR 635; Recommended FNAR 543 or FNAR 580. Course Fee \$75.00.

This course introduces methods of modeling, texturing, and rendering human and animal figures. Students will study anatomical bone and muscle structures, and then employ this knowledge as they develop polygonal models for real-time 3D simulations or gaming environments, high-resolution renderings, and rapid prototyping.

SM 538. (FNAR238) Open Book. (A) Course Fee \$75.00.

"Open Book" will focus on visual communication of information. It will address two methods of inquiry and the corresponding means of visual representation: the objective, well structured research of facts and images, and the creative process of their subjective evaluation and restatement. Students will propose a topic based on their area of interest and engage in a focused, semester-long exploration, which they will present in the form of a designed and printed book.

541. (FNAR241) Hand-Drawn Computer Animation. (M) Prerequisite(s): FNAR 636. Course Fee \$75.00.

Using software tools designed for hand-drawn animation, students will develop animation skills applicable to all forms of animation. In this course students will learn to draw with a sense of urgency and purpose as they represent motion and drama in a series of frames. Through careful study of natural movements, precedents in the history of animation, and through the completion of a series of

animation projects students will develop strategies for representing naturalistic movement, inventing meaningful transformations of form, and storytelling.

542. (FNAR142) 3-D Design. (C)

Students will make work that draws from and interacts with the three-dimensional world we live in. Formal strategies will explore principles of organization. Planar construction, modeling and assemblage methods will be used for investigations spanning from bas-relief to environmental art. This is a "learn by doing" process with no prerequisites.

543. (FNAR243) Figure Sculpture I. (C) Course Fee \$75.00.

An introduction of modeling the human figure in clay. Students will work from the live model, acquainting themselves with issues of basic anatomy, form and function, and clay modeling. No previous experience is required; drawing experience a plus.

545. (FNAR145, VLST252) Sculpture Practices. (C)

As an introduction to traditional and contemporary three-dimensional practice, this course is concerned with the concepts and methodologies surrounding three-dimensional art making in our time. Students experiment with a variety of modes of production, and develop some of the fundamental techniques used in sculpture. In addition to these investigations, assignments relative to the history and social impact of these practices are reinforced through readings and group discussion. Processes covered include use of the Fab Lab, wood construction, clay, paper, mixed media, and more.

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547. (FNAR247) Environmental Animation. (B) Landau. Prerequisite(s): Experience in landscape architecture, architecture, animation, programming, film, Photoshop, or graphic design is strongly encouraged but not required.

This studio-based course examines the disciplinary spaces of landscape, art, and architecture through the medium of 3D animation and storytelling. We immerse ourselves in environments that may be as small as a cell or as large as a planet. From the refiguring of images, models, graphic design, or video to visualization or coding the genesis of whole environments, this course will allow for a variety of entry point for students of different disciplines and skill levels. Projects will range in

scope from animated GIFs to animated shorts.

This course embraces a spirit of invention, collaborative learning, and interdisciplinary cross-pollination. Experience in landscape architecture, architecture, animation, programming, film, GIS, and/or graphic design is encouraged. We will examine and discuss some standard typologies such as the walk-through, data-visualization, as well as filmic and avant garde strategies as starting points for creative reinterpretation of space. We will primarily be using 3D Studio Max and After Effects with support from Next Engine 3D Scanner, Rhino, and Grasshopper. Scripting will be included in most assignments to enhance artistic control of the software.

550. (FNAR250, VLST250) Introduction to Printmaking. (B)
Course Fee \$75.00.

The course offers an introduction to several forms of printmaking including: intaglio, screen printing, relief, and monoprinting. Through in-class demonstrations students are introduced to various approaches to making and printing in each medium. The course enhances a student's capacity for developing images through two-dimensional design and conceptual processes. Technical and conceptual skills are developed through discussions and critiques.

551. (FNAR251) Printmaking: Etching. (C) Course Fee \$75.00.

The class will challenge the possibilities of experimental drawing and ways of creating incisions and textures using copper plates as the matrix, which then will be printed on paper and other materials. The class offers full technical and historical description of each individual process: Dry Point, Etching, Hard ground, Soft Ground, Aquatint, Shine Cole', Spit-Biting, Sugar Lift, Color Printing and Viscosity printing.

552. (FNAR252) Printmaking: Relief & Screen Printing. (C) Course Fee \$75.00.

This course is an introduction to technical skills and investigative processes in screen printing and relief and examines methods for combining digital technology with traditional print media. The course introduces students to several contemporary applications of silkscreen and relief printmaking including techniques in multi-color printing, photo-based silkscreening, digital printing, woodcut, linocut, and letterpress. Demonstrations include photo and image manipulation, color separating and output techniques, hand carving and

printing, as well as drawing and collage. Both traditional and experimental approaches are explored and encouraged and technical and conceptual skills are developed through discussions and critiques.

553. (FNAR253) Advanced Projects in Printmaking. (B) Prerequisite(s): FNAR 551 and FNAR 552 or FNAR 557. Course Fee \$75.00.

This course will concentrate on expanding imagery in print media. The course requires the proposal of a directed final project to be developed during the semester. Three initial exploratory projects will culminate in the final. Projects are open to all print media, but there will be an emphasis on screen printing. Techniques will be addressed as they serve the needs of ideas rather than a set technical procedure. Through individual consultation, scheduled class critiques, and field trips, attention will be given to studio work in and out of printmaking so that the technical and conceptual strengths of print media can serve as a worthwhile adjunct to an overall studio practice.

554. Graduate Printmaking I. (G)
Adkins. Course Fee \$75.00.

This course will cover the traditional print processes while offering a chance to develop visual skills. The processes covered in class will include monoprinting (one of a kind prints), relief printing and a variety of etching techniques. Demonstrations will be offered to introduce more advanced processes like lithography and silkscreening. This class is an excellent introduction to the visual arts because the thought process as well as the development of the image can be recorded. \$40 Studio Fee.

557. (FNAR257) Printmaking: Mixed Media. (C) Course Fee \$75.00.

This course will explore the interplay of analog and digital processes and products of printing through various media, technology and conceptual approaches. In this changing world of communication, explore the intersection of old and new media to fabricate new and experimental design for print media. Using the printshop, the computer, and the equipment in the fabrication lab as our interface for exploration, we will focus on text and image relationships by integrating design, typography, print, and digital systems in a printing workshop environment. This course begins with an exploration of processes and experimentation, resulting in the creation of an edition that is conceptually centered on individual

interests that engage the senses, the imagination, and the intellect.

558. (FNAR258) Introduction to Clay: the Potter's Wheel and Beyond. (C)
FNAR Faculty. Course Fee \$75.00.

In this introductory clay class, students will learn all the fundamental skills needed to create three-dimensional forms in clay using a variety of methods: wheel throwing, handbuilding (such as coil building and slab construction), and press molding. Whether creating utilitarian forms or creating sculpture, projects are designed to strengthen both craftsmanship and individual creativity. In addition to developing a working knowledge of the ceramic process, including surface treatments and glazing, students will also be introduced to design issues as well as contemporary art/ceramics topics that influence our aesthetic sensibilities. No prerequisites.

559. (FNAR259) Beginning Clay: Handbuilding and Casting Techniques. (C) FNAR Faculty. Course Fee \$75.00.

Modeling and casting are fundamental methods of object-making. Students will learn basic handbuilding techniques such as coil building, slab construction, and mold making through assignments that incorporate conceptual and technical issues. Through experimentation with these methods, this course promotes an understanding of materials, processes, visual concepts, and techniques for creating three-dimensional forms in space. In addition to using different water-based clays and plaster, other materials such as wax, plastiline, paper pulp, cardboard, and tar paper will be explored. No prerequisites.

563. (FNAR263) Advanced Wheel Studio. (C) Prerequisite(s): FNAR 561. Course Fee \$75.00.

This course teaches students more advanced wheel throwing techniques while helping to develop their critical skills in other areas of ceramic work. Students will learn to throw, employing larger masses of clay, and to increase the complexity of their work by combining and altering thrown parts. There will be an emphasis on experimentation in surface treatment and design, the goal of which is to expand a student's ability to create more complicated and personalized clay works. In addition to learning the technical knowledge, there will be critical discussions of contemporary ceramics issues through image presentations, reading materials and field trips.

566. (FNAR266) Graphic Design with Creative Technologies. (C)

Prerequisite(s): FNAR 636. Course Fee \$75.00.

The aim of this course is to introduce students creative ways to use color, typography, and layout across new materials and media, ranging from print to physical objects. Students will explore visual design through a set of assignments and projects that are geared towards exploring the role of design in visual arts, interaction design, media design and architecture. The course introduces a number of design concepts such as content organization, navigation, interaction and data-driven design and show ways to develop new design metaphors, presentation techniques, and imagery using old and new technologies. course is structured as a combination of lectures and hands on workshops where students will have the chance to work both individually and collaboratively to realize their projects.

567. (FNAR267) Computer Animation. (C) Course Fee \$75.00.

Through a series of studio projects this course introduces techniques of 2D and 3D computer animation. Emphasis is placed on time-based design and storytelling through animation performance and montage. Students will develop new sensitivities to movement, composition, cinematography, editing, sound, color and lighting.

568. (FNAR268, IPD 568) Interactive Design Studio: Biological Design. (C) Course Fee \$75.00.

This course is a research-based design studio that introduces new materials, fabrication, and prototyping techniques to develop a series of design proposals in response to the theme: Biological Design. The studio introduces life sciences and biotechnologies to designers, artists, and non-specialists to develop creative and critical propositions that address the social, cultural, and environmental needs of the 21st century. The course will be a pilot study of the first biodesign challenge organized by CUT/PASTE/GROW. The final projects will be submitted to a competition and the winning entry will be featured at Biofabricate in Summer 2017.

569. (FNAR269) Typography. (B)

Prerequisite(s): FNAR 636. Course Fee \$75.00.

The study and practice of typography spans the history of individual letterforms through the typesetting of full texts. It is a complete immersion into type as an integral part of visual communication. Typesetting

conventions and variables including legibility, readability, texture, color and hierarchy will be stressed, as well as a form for organizing information and expressing visual ideas. Studio work will include collecting and analyzing type, designing an original typeface, researching type history and experimenting with typographic forms.

570. (FNAR270) Graphic Design Practicum. (C) Prerequisite(s): FNAR 566 or FNAR 569. Course Fee \$75.00.

Practicum provides a real world experience for students interested in solving design problems for non-profit and community organizations. The studio works with two clients each semester, and previous projects have included print design, web design, interpretive signage and exhibit interactives. All projects are real and will result in a portfolio-ready finished product. Students will participate in a full design experience including design, client interaction, presentations, production, and project management. In addition, students will take field trips, meet professionals and go on studio visits.

571. (FNAR271, VLST251) Introduction to Photography. (C) Course Fee \$75.00.

This course is an introduction to the basic processes and techniques of black & white photography. Students will learn how to expose and process 35mm film, SLR camera operation, darkroom procedures & printing, basic lighting and controlled applications. It begins with an emphasis on understanding and mastering technical procedures and evolves into an investigation of the creative and expressive possibilities of making images. This is a project-based course, where students will begin to develop their personal vision, their understanding of aesthetic issues and photographic history. Assignments, ideas and important examples of contemporary art will be presented via a series of slide lectures, critiques and discussion. No previous experience necessary. 35mm SLR cameras will be available throughout the semester for reservation and checkout from the photography equipment room.

If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu

SM 572. (FNAR272) Advanced Photography: Integrated Techniques and Strategies. (C) Prerequisite(s): FNAR 571 or Permission of Instructor. Course Fee \$75.00.

This studio course seeks to broaden each student's skills by experimenting with a wide range of photographic media.

Advanced analog, digital and experimental lens-based techniques will be covered, as well as larger camera formats to expand their vocabulary as image-makers. Emphasis will be on an integrated experience of the photographic medium and the development of a body of work that is both theoretically and historically informed. The course will be a means to view and discuss various strategies of important contemporary photographers. Focused assignments, readings, slide lectures and gallery visits will supplement each student's artistic practice and research.

SM 574. (FNAR274) Reconfiguring Portraiture. (B) Prerequisite(s): FNAR 571 or FNAR 640 or Instructor Permission. Course Fee \$75.00.

As methods of representation are constantly shifting, one thing is clear - the photographic portrait is not what is used to be. Exploring both traditional and contemporary methods of portraiture, this class will uncover and discuss the ways in which we perceive each other in imagery, both as individuals and as groups. Throughout the semester, we will consider how portraits deal with truth, physical absence, the gaze, cultural embodiment, voyeurism and the digital persona. This course will build on the combination of perception, technology, and practice. Throughout the semester, students will advance by learning lighting techniques and strategies of presentation - as these core skills will become tools in the execution of project concepts. In tandem with each project, students will encounter and discuss a wide array of photography and writings from the past to the present, in an effort to understand the meanings and psychological effects of freezing the human image in time

SM 575. Graduate Drawing Seminar. (B) Tileston/Freedman.

This seminar examines the essential nature drawing has in an artist's process. Direct visual perception, self-referential mark making, the viability of space and understanding it, and drawing from one's own work are some of the drawing experiences encountered in the course. There are regular critiques and discussions based on the work and readings.

SM 576. Critical Issues Seminar. (C) Tileston.

This seminar investigates issues concerning visual artists. Part one begins with Plato and Kant and progresses through a history of ideas in art, exploring the questions which concern artists today, including Modernism, post-modernism, abstraction

and representation, appropriation, context, art and politics, identity, and the artist's relationship to these subjects. Part two of the course will focus on current texts in contemporary art, the current dialogue(s), and issues specific to our time and place as artists. The seminar engages contemporary issues in a spirit of curiosity and critique, and relates them to our studio practice.

SM 578. (FNAR278) Documentary Strategies. (C) Prerequisite(s): FNAR 571 or FNAR 640 or Permission from Instructor. Course Fee \$75.00.

This course offers a context for photographers to develop a documentary project - either within a traditional photojournalistic framework or one that challenges these traditions. The aim is to understand documentary as an evolving practice and to develop an artistic response when depicting our social reality- from everyday experience to the events that shape the world. An important aspect of the class will be examining the diversity of ways that journalists and artists have used the camera to extend and question the power of photography as document. The class will address key questions of media and mediation, the nature and status of documentary in the context of globalizing media and how traditional documentary work has been affected by video, performance, conceptual art and activism.

580. (FNAR280) Figure Drawing I. (C) Prerequisite(s): FNAR 523. Course Fee \$75.00.

Students work directly from the nude model and focus on its articulation through an understanding of anatomical structure and function. Students will investigate a broad variety of drawing techniques and materials. The model will be used as the sole element in a composition and as a contextualized element.

581. (FNAR281) Figure Drawing II. (C) Prerequisite(s): FNAR 580. Course Fee \$75.00.

Figure Drawing II is an advanced class designed to further develop the student's skill and facility in capturing the human form. Content and conceptual issues will be explored through individualized projects concentrating on the figure. Students will also expand on their knowledge of drawing media and application.

SM 582. (FNAR282) Advanced Topics in Photography: Site, Space and Documentation. (A) Prerequisite(s): FNAR 571 or FNAR 640 or Permission from Instructor. Course Fee \$75.00.

This course will challenge students to create immersive environments and activated spaces through interdisciplinary means. Students will be working on individual as well as collaborative projects; they will be encouraged to incorporate different media with photography and explore the various methods and materials of installation. They will learn how to develop and present professional proposals and experiment with different modes of documentation. We will examine the history of Installation Art with an emphasis on contemporary trends and important emerging artists. Topics of discussion will range from site-specificity/architecture, Social Practice models and performance-oriented residue. The course culminates with a public presentation-an exhibition of student projects created for specific sites on campus.

585. (FNAR085) Performance Studio. (B) Hayes. Prerequisite(s): One previous studio course (such as FNAR523, FNAR545, FNAR640, OR FNAR661) or permission from the instructor. Course Fee \$75.00.

This course supports the individual and collaborative production of performance works. As the medium of performance consists of diverse forms, actions, activities, practices and methodologies, the course allows for an open exploration in terms of material and form. Students are invited to utilize technologies, materials and methodologies from other mediums and/or disciplines such as video, photography, writing and sound. In addition to the production component, the course will examine multiple histories of performance through readings, screenings and directed research.

589. (CIMS289, FNAR289) Mixed Media Animation. (B) Prerequisite(s): FNAR 523 and FNAR 636. Course Fee \$75.00.

Mixed Media Animation is a contemporary survey of stop-motion animation concepts and techniques. Students use digital SLR cameras, scanners and digital compositing software to produce works in hand-drawn animation, puppet and clay animation, sand animation, and multiplane collage animation. Screenings and discussions in the course introduce key historical examples of animation demonstrating how these techniques have been used in meaningful ways. Students then learn how

to composite two or more of these methods with matte painting, computer animation or video.

SM 591. The Body and Photography. (B) Prerequisite(s): FNAR 271 or FNAR 340 and Instructor Permission Required. Course Fee \$75.00.

The last few decades have introduced dramatic changes in the way we interact with each other, the way we communicate, the way we date, watch porn, etc. Ethical concerns have arisen with scientific advances such as stem cell research, fertility drugs, Botox, cloning and erectile dysfunction. This studio course will investigate the myriad ways in which the corporeal is addressed and manipulated in contemporary art, science, religion, pop culture and media. Students will develop photographic projects related to updated questions concerning gender, sexuality and social issues. Lectures, readings and class discussion will focus and inform their individual work.

SM 594. Graduate Photography Seminar. Davenport.

This seminar will examine contemporary issues in photography from the point of view of the practicing artist. Students will meet with visiting critics during the semester, the course will also include student presentations, weekly discussions and group critiques, visits to artists' studios and gallery and museum exhibitions. Texts for the seminar will be drawn from contemporary critical theory in art, philosophy, history and popular culture. Required for all graduate photographers.

SM 598. Grad Sculpture Seminar. (B) Staff.

Sculpture instructor (to be announced) will lead this studio course based on improvisational approaches to developing individually made sculptural works, as well as works that are made in collaboration with others. As in Music or Theater, these works involve the collaboration of others, yet they are equally initiated by small thoughts, and carry those thoughts into a more public and interactive format of installation.

601. Graduate Studio III. (A) Lum/Freedman/Mosley/Telhan/Tileston.

First year studio for MFA students' core pursuit of self-directed interdisciplinary problems that contribute to one or more of the visual art disciplines.

602. Graduate Studio IV. (B)

Adkins/Davenport/Freedman/Mosley/Telhan/Tileston.

Second year studio for MFA students' core pursuit of self-directed interdisciplinary problems that contribute to one or more of the visual art disciplines.

SM 615. (ENGL119, FNAR315) Across Forms: Art and Writing. (A) Hayes and Zolf.

What if a poem spoke from inside a photograph? What if a sculpture unfurled a political manifesto? What if a story wasn't just like a dance, but was a dance-or a key component of a video, drawing, performance, or painting? In this course, artists and writers will develop new works that integrate the forms, materials, and concerns of both art and writing. Many artists employ writing in their practices, but may not look at the texts they create as writing. And many writers have practices that go beyond the page and deserve attention as art. This course will employ critique and workshop, pedagogic methodologies from art and writing respectively, to support and interrogate cross-pollination between writing and art practices. Additionally, the course will examine a field of artists and writers who are working with intersections between art and writing to create dynamic new ways of seeing, reading, and experiencing.

620. (FNAR220) Producing Ephemera: Letterpress, Risograph, Inkjet, Xerox. (A) Romberger.

This studio course introduces students to the world of printmaking and circulation through techniques in letterpress and Risograph (a high-speed digital printing system developed in Japan in the 1980s), in addition to Xerox, laser, inkjet, and off-set printing, focusing particularly on the format of prints, artists' ephemera, and the role of ephemera in understanding culture. Students will create their own broadsides, flyers, announcement cards, and independent publications throughout the course, exploring ways in which artists, designers, musicians, and activists make or have made use of the print to disseminate information; initiate happenings; advertise events; or format change. Students will learn about some of the most significant producers working within this realm - from Conceptualists to punk bands - and develop skills in page layout, typography, and design; mechanized and hand-pulled press operations; and digital to analog pre-press and post-print production methods.

This course is designed for highly motivated students and requires out-of-class time commitment. However, no prior

coursework is required. Students from all levels and backgrounds are encouraged to register. The course employs combined collaborative / self-directed approaches to learning to enhance students' understandings of ways in which print media and multiples serve as vital conduits for disseminating ideas involving visual art, popular culture, literature, politics, performance and many other topics students will wish to explore.

SM 622. (FNAR222, URBS322) The Big Picture: Mural Arts in Philadelphia. (C)

The history and practice of the contemporary mural movement couples step by step analysis of the process of designing with painting a mural. In addition students will learn to see mural art as a tool for social change. This course combines theory with practice. Students will design and paint a large outdoor mural in West Philadelphia in collaboration with Philadelphia high school students and community groups. The class is co-taught by Jane Golden, director of the Mural Arts Program in Philadelphia, and Shira Walinsky, a mural arts painter and founder of Southeast by Southeast project, a community center for Burmese refugees in South Philadelphia.

631. (FNAR331) Interdisciplinary Studio: Sites of Convergence and Hybridity. (B) Tileston. Prerequisite(s):

One previous studio course (such as FNAR 523, FNAR545, FNAR640, FNAR 531 or FNAR 636 or Penn Design course) or permission from the instructor.

This course takes an experimental multimedia approach to investigating some of the boundaries in contemporary art making practices. Painting, photography, video, design and sculpture intersect, overlap, and converge in complicated ways. Projects will be designed to explore hybrid forms, collage, space/ installation, and color through a variety of strategic and conceptual proposals as students work towards unique ways of expanding their own work. Weekly readings, critiques, and presentations will be integrated with studio projects. This studio/seminar is appropriate for students at all levels and from all areas of Fine Arts and Design.

633. (FNAR233) Digital Illustration. (C) Prerequisite(s): FNAR 636 and FNAR 523. Course Fee \$75.00.

Digital Illustration is a course designed to expose students to the diverse techniques and approaches used in creating digital illustration for print publication. Course assignments will include two-dimensional

animation storyboard rendering, figure illustration, technical diagram illustration, photographic retouching and enhancing. Digital applications will include morphing with layers, surface cloning, three-dimensional modeling and spatial transformation of scenes and objects. Students completing this course will possess the capability to design and plan creatively and skillfully execute finished artwork.

634. (FNAR234) Art of the Web: Interactive Concepts for Art & Design. (C) Prerequisite(s): FNAR 636. Course Fee \$75.00.

Art of the Web: Interactive concepts for art and design is a first step in learning how to create, analyze and discuss interactive content, as a visual creator. It is an exploration of the culture of the internet, the ideas behind its quirks, the dreams and freedoms it encapsulates, and the creative power it gives to us. Students will be assigned projects that will challenge their current understanding of the web, and the ways it shapes human connectivity and interaction. Upon completion of this course, students will possess a working knowledge how to organize and design websites and learn to critique web-content including navigation, UX design and information architecture. The course will require analytical and conceptual skills and foster creative thinking.

635. (FNAR235) 3-D Computer Modeling. (C) Prerequisite(s): FNAR 523 and FNAR 636. Course Fee \$75.00.

Students will develop a comprehensive knowledge of how virtual worlds are constructed using contemporary computer graphics technique with a fine arts perspective. The course will offer the opportunity to explore the construction, texturing, and rendering of forms, environments, and mechanisms while conforming to modeling specifications required for animation, real-time simulations or gaming environments, and rapid prototyping.

636. (FNAR264, VLST264) Art, Design and Digital Culture. (C) Course Fee \$75.00.

This course is an introduction to the fundamental perception, representation, aesthetics, and design that shape today's visual culture. It addresses the way artists and designers create images; design with analog and digital tools; communicate, exchange, and express meaning over broad range of media; and find their voices within the fabric of contemporary art, design, and visual culture. Emphasis is placed on

building an extended form of visual literacy by studying and making images using a variety of representation techniques; learning to organize and structure two-dimensional and three-dimensional space, and designing with time-based and procedural media. Students learn to develop an individual style of idea-generation, experimentation, iteration, and critique as part of their creative and critical responses to visual culture.

If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu

637. (FNAR337) Information Design and Visualization. (C) Prerequisite(s): FNAR 636. Course Fee \$75.00.

Information design and visualization is an introductory course that explores the structure of information (text, numbers, images, sounds, video, etc.) and presents strategies for designing effective visual communication appropriate for various users and audiences. The course seeks to articulate a vocabulary of information visualization and find new design forms for an increasingly complex culture.

SM 638. (FNAR338) Creative Research. (A) Telhan. Course Fee \$75.00.

This seminar explores what it means to do research in creative and critical practices. Students learn about different research methods from design, engineering, humanities and sciences; utilize them for developing and evaluating their individual creative work as cultural producers. This is an interdisciplinary course that encourages students to observe, measure, analyze, test, study, experiment, diagram, prototype, speculate, generate and criticize; apply multiple modes of inquiry; be conceptual, analytical, propositional and critical at the same time to develop their work from different perspectives.

640. (FNAR340, VLST265) Digital Photography. (C) Course Fee \$75.00.

This class offers an in-depth technical and conceptual foundation in digital imagery and the opportunity to explore the creative, expressive possibilities of photography. Students will become proficient with the basic use of the camera, techniques of digital capture, color management and color correction. They will also develop competency in scanning, retouching, printing and a variety of manipulation techniques in Photoshop. Through weekly lectures and critiques, students will become familiar with some of the most critical issues of representation, consider examples from photo history, analyze the impact of

new technologies and social media. With an emphasis on structured shooting assignments, students are encouraged to experiment, expand their visual vocabulary while refining their technical skills. No previous experience is necessary. Although it is beneficial for students to have their own Digital SLR camera, registered students may reserve and checkout Digital SLR cameras and other high-end equipment from the department.

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SM 643. (FNAR343) LANGUAGE OF DESIGN. (B)

The course will explore the changing relationship during the modern era between design (structure, model, plan of a work of art) and language (metaphor for a system of communication; speech, writing, literature). Our readings and visual presentations will focus on topics in the decorative arts, painting, architecture, typography and visual communication. We will focus on primary sources in order to situate our inquiry in a larger historical context. The discussion will center on claims about the inherent meaning of form, discuss different roles for design -as an ideological statement, as an agent of social change, and as an idiosyncratic expression. Topics will also include the search for a universal visual language, attempts at bridging the perceived gap between spoken and written language, and the impact of visual form on the meaning of literary texts (particularly when the author has been involved in the publication process). Students can suggest additional topics related to their field of study.

645. (FNAR245) Book and Publication Design. (A) Hyland.

Prerequisite(s): FNAR 636 is strongly suggested but not required.

Book and Publication Design will focus on the theory and professional practice of designing multi-page publications. Students will analyze formal structures of different types of books-literature and poetry, fiction and non-fiction compilations, illustrated volumes such as art catalogues, monographs and textbooks, and serial editions-discussing both traditional and experimental approaches. The format of the course will be split between theoretical and historical evaluations of book formats by drawing on the Van Pelt Rare Book Collection-and studio time where students will design books with attention to the format's conceptual relationship to the material at hand with a focus on typography and page

layout, as well as on understanding production methods of printing and binding. In addition to the conventions of page layout students will examine paratextual elements (title page, practices of pagination and other internal structuring, content lists and indexes, colophons, notes and marginalia, end-leaves, binding, etc.).

646. (FNAR366) ADVANCED 3D MODELING. (C) Prerequisite(s): FNAR 235/635 or FNAR 236/536. Course Fee \$75.00.

647. (FNAR347) Expanded Documentary. (B) Davenport. Prerequisite(s): FNAR-571 or FNAR-640 or FNAR-661 or permission from instructor. Course Fee \$75.00.

The sites and situations of documentary in our culture have exploded exponentially - from standardized formulas (like reality tv), to social media and cross-platform journalism. In contemporary art, documentary practice has also significantly expanded and diversified. Since the early 2000's, with several influential exhibitions following Documenta XI, a new generation of artists have taken up the ambition of depicting our social reality, and have done so by re-engaging and re-inventing the documentary mode. This intermediate course will examine this vital contemporary field and will also offer students a comprehensive introduction to the history of documentary practice. We will investigate a series of key questions regarding the relation between politics and aesthetics, mediums and mobility, how documents function to both approximate and deny a sense of 'reality' and perhaps most importantly-what kinds of social, political or personal realities you want to propose in your artwork. The class will be driven by a series of studio assignments and practical experimentation. Although there will be an emphasis on photography and video, students will also explore a multiplicity of strategies and forms (including archival display, essayistic installation, image-text relationships, and the documentation of performance.)

648. (FNAR348) Counter the Land: Photography and the Landscape. (A) Wahl. Prerequisite(s): FNAR 571 or FNAR 640 or with permission of the instructor.

Starting with the representation of landscape in painting in the early 1800s, the course will then move through Pictorialism and the Modernist movement in photography.

Revisiting the later half of the 20th century, we will begin to consider the shifting practices of landscape and the ways it has been photographically depicted up to the

present. Collaborating with the Brandywine River Museum of Art in Chadds Ford, students will begin their photographic exploration with the work of Andrea Wyeth and the landscape of the Brandywine Valley. As we consider Wyeth, the images of James Welling will also be introduced. Credited for pioneering new forms of representation in photography in the 1970s, Welling also revisited the work of Wyeth from 2010-2015, and committed to a fresh (and challenging) look at tradition.

Working with imagery and text, this class will also touch on conceptual art, the New Topographics, and postmodernism. Through these various concentrations, students will consider and counter the traditions that they are already familiar with, while creating work based on issues of the landscape today. Questions about meaning, politics, social critique, and rights, technology and methods of presentation will be encouraged and explored throughout the course.

649. (FNAR349) Advanced Digital Photography. (C) Prerequisite(s): FNAR 640. Course Fee \$75.00.

In this studio course, students will become proficient in advanced techniques of image production while expanding their artistic process and refining their photographic work. With an emphasis on self-directed projects and research, students will further their knowledge of image control and manipulation, retouching and collage, advanced color management; become familiar with high-end equipment and develop professional printing skills. Class discussion, lectures and assigned readings will address the critical issues in contemporary art, media and photographic culture. Emphasis will be on integrating practice and critical dialogue.

650. (FNAR350) Shared Culture: New Strategies for Artists in the Digital Age. (B) Goldsmith. Fine Arts Majors or MFA students ONLY or permission of instructor.

Our digital world has forced us to entirely rethink what it means to be an artist in the digital age, socially, economically, and politically. Ideas that have long been stable - including originality, creativity, and genius - are ripe for reexamination and redefinition in the twenty-first century. When the entire internet is copy- and-pasteable - and distribution moves swiftly - is anything off limits for the artist? Can we imagine our artistic production mimicking the meme, rippling through the networks for a day, then disappearing forever? Are we doomed to make works that are

supposed to live for eternity or, in the face of environmental meltdown and collapsing financial markets, can we instead move our production toward the ephemeral? What would this look like? Can our output be steered toward the political? Can we frame these ideas as acts of resistance? Or compliance? Is there an inside? Is there an outside?

654. (FNAR254) Printmaking & Publications: Intro to Independent Publishing and Artists' Publications. (A) Romberger.

This course introduces students to independent publishing and artists' publications through print methods in letterpress, Risograph, and Xerox. The class will focus on the self-published artists' zine/book as an affordable, accessible, and easily reproducible format for exploring ideas, disseminating artists' work, and collaborating across disciplines. Students will learn a range of skills, including techniques in both mechanized and hand-pulled forms of printed media (Risograph, copy machine, Vandercook letterpress); short-run editions and binding; design and layout; pre-press and print production; and the web as it relates to and supports independent and democratic modes of distribution. Students will learn about and become acquainted with some of the most significant independent publishers working today and throughout history. Students will leave class having completed three individual projects: a 16-page booklet/zine; a carefully considered online publication, and a final collaborative book designed, developed and published as a class. The course commences with a field trip to New York City's Printed Matter, one of the oldest and most important nonprofit facilities dedicated to the promotion of artists' books, where students will be encouraged to submit a publication by semester's end.

SM 661. (CIMS061, FNAR061, VLST261) Video I. (C) Course Fee \$75.00.

In this studio based course, students are introduced to video production and postproduction as well as to selected historical and theoretical texts addressing the medium of video. Students will be taught basic camera operation, sound recording and lighting, as well as basic video and sound editing and exporting using various screening and installation formats. In addition to a range of short assignment-based exercises, students will be expected to complete three short projects over the course of the semester. Critiques of these projects are crucial to the course as

students are expected to speak at length about the formal, technical, critical and historical dimensions of their works. Weekly readings in philosophy, critical theory, artist statements and literature are assigned. The course will also include weekly screenings of films and videos, introducing students to the history of video art as well as to other contemporary practices.

If you need assistance registering for a closed section, please email the department at fnarug@design.upenn.edu

SM 662. (CIMS062, FNAR062) Video II. (C) Prerequisite(s): FNAR 661. Course Fee \$75.00.

Video II offers opportunities to further explore the role of cinematic narrative technique, non-narrative forms, digital video cinematography, editing, and screen aesthetics. Through a series of several video projects and a variety of technical exercises, students will refine their ability to articulate technically and conceptually complex creative projects in digital cinema. In addition, one presentation on a contemporary issue related to the application of cinematic storytelling and/or the cultural context of digital video is required.

SM 663. (FNAR063) Documentary Video. (A) Prerequisite(s): FNAR 661. Course Fee \$75.00.

Documentary Video is an intensive production course involving the exploration of concepts, techniques, concerns, and aesthetics of the short form documentary. Building on camera, sound, and editing skills acquired in Video I, students will produce a portfolio of short videos and one longer project over the course of the semester using advanced level camera and sound equipment. One short presentation on a genre, technique, maker, or contemporary concern selected by the student is required.

SM 665. (FNAR065) Cinema Production. (A) Prerequisite(s): FNAR 661. Course Fee \$75.00.

This course focuses on the practices and theory of producing narrative based cinema. Members of the course will become the film crew and produce a short digital film. Workshops on producing, directing, lighting, camera, sound and editing will build skills necessary for the hands-on production shoots. Visiting lecturers will critically discuss the individual roles of production in the context of the history of film.

SM 667. (CIMS067, FNAR067) Advanced Video Projects. (M)

Prerequisite(s): FNAR 662.

This course is structured to create a focused environment and support for individual inquiries and projects. Students will present and discuss their work in one on one meetings with the instructor and in group critiques. Readings, screenings, and technical demonstrations will vary depending on students' past history as well as technical, theoretical, and aesthetic interests. Course approval will be based on application prior to the beginning of the semester.

SM 668. (CIMS068, FNAR068) Cinematography. (B) Prerequisite(s): FNAR 661.

This course will be a technical, practical and aesthetic exploration of the art of cinematography as it pertains to film and digital video. Through screenings, in-class exercises and assignments, students will increase their Video I skills in lighting and cinematography as a form of visual expression. Topics covered include shot composition, camera movement, lenses, filtration and color, exposure, lighting techniques, location shooting and how to use grip equipment. Discussions, demos and lectures will include relevant and illustrative historical motion picture photography, current digital video technology, and examples that explore interactions between film and video.

669. Graduate Video Studio. (A) Mosley.

Through a series of studio projects, this course focuses on the conceptualization and production of time-based works of art. A seminar component of the course reviews contemporary examples of media based art and film. A studio component of the course introduces production techniques including lighting, cinematography, audio, editing, mastering projects, and installing audio-visual works in site-specific locations or gallery spaces.

670. (FNAR370) Advanced Graphic Design and Typography. (A)

Prerequisite(s): FNAR 566 AND FNAR 569 or Permission of Instructor. Course Fee \$75.00.

This course will explore advanced commercial, public and personal forms of visual communication. Emphasis will be placed on creative problem solving with consideration for audience. Discussion of design history, current ideology and future design applications will inform individual student projects. Work generated in this studio can be used to build a portfolio.

SM 671. (FNAR070) Film Sound: History, Aesthetics and Subversion.

(A) Novack. Course Fee \$75.00.

Sound and Image as experienced in the cinema, are not divisible. One perception influences the other, and transforms it. While a preexisting harmony between these two senses may exist, its conventions are subject to manipulation and the whims of subversion. Film Sound tracks the technological and aesthetic history of sound for film including psychoacoustics, dialogue, music, sound fx and audio's gradual and triumphant march towards fidelity, stereo and surround sound. This lecture course, through an historical and pedagogical romp loaded with examples throughout film history and visits by lauded audio professionals from the film world, seeks to instruct students to engage in the process of sound perception, gaining an appreciation for the art of sound as it relates to the varied phenomenological dimensions of that unique audio-visual encounter we call movies.

673. (FNAR073) Machine for Seeing: Architecture and the Moving Image.

(B) Hartt. Prerequisite(s): FNAR 661. Course Fee \$75.00.

Architecture's relationship with cinema was established with the very first motion picture. In *Sortie de l'usine Lumiere de Lyon* by Auguste and Louis Lumiere we see a didactic presentation of film titles as workers from the Lumiere brother's factory stream forth from its interior at days end. In many ways the context of the film is its subject as well. The title of the class plays on Le Corbusier's maxim that architecture is machine for living and perhaps cinema is simply a machine for helping us understand the vast construct of our built environment. A device, which allows us to imagine even greater follies or more importantly to think critically about architecture's relationship with and impact on society. Readings, screenings, discussions and critiques make up the curriculum along with studio time. Students will produce their own film and we will look at films produced by a range of practitioners: From architects speculating on the nature of and use of public space and urban development to documentarians researching the pathologies of neo-liberalism and its effect on the privatization of space. We will also look at the work of artists who engage with the poetics of space and who unpack the conflicted legacies of the built environment.

674. (FNAR074) A Virus in the Culture: Social Critique in Media Arts. (A)

David Hartt and Mark Owens. Prerequisite(s): FNAR 661 or permission from instructor.

In order to change the world, we must first learn how to infect it. A Virus in the Culture is a studio class that examines and generates various forms of media resistance to dominant hegemonic systems of power and control. Using filmmaking, publication design and interactive media we'll think through and develop responses to some of the most pressing issues facing us today. We'll look at historical models from the agitprop design work of Gee Vaucher for Anarcho-punk band Crass to Chris Marker's film *Le Fond de L'Air Est Rouge*, a radical analysis of global social and political turmoil in the late 60s and early 70s. We'll also look at experimental contemporary design firms like Metahaven who question the role of designers and filmmakers today - Bypassing the power dynamics of clients and briefs they took it upon themselves to create a graphic identity for WikiLeaks. Each example broadens the definition and possibilities of practice to create a more porous engagement with audiences and users while informing the practice of social critique today. Considering a diverse range of topics from education policy, to the rights of environmental refugees, we'll use the class to workshop a singular comprehensive project that targets researches and responds to a specific contested position. The outcome of which will be a class produced short film,

publication and website that unpacks the social, cultural, and economic complexities of our subject. This class is co-taught by David Hartt, an artist and filmmaker along with graphic designer, Mark Owens. Reading, screenings, discussions and critiques make up the curriculum along with studio time. While the focus of this course is not technical, prior knowledge of design programs, camera functions, and post-production techniques is expected.

SM 675. (CIMS075, FNAR075) Image and Sound Editing. (B) Prerequisite(s): FNAR 661. Course Fee \$75.00.

This course presents an in-depth look at the storytelling power of image and sound in both narrative and documentary motion pictures. Students apply a theoretical framework in ongoing workshops, exploring practical approaches to picture editing and sound design. Students edit scenes with a variety of aesthetic approaches, and create story-driven soundtracks with the use of sound FX,

dialogue replacement, foleys, music and mixing. Students not only learn critical skills that expand creative possibilities, but also broaden their understanding of the critical relationship between image and sound.

678. (FNAR378) Interfacing Culture: Designing for Mobile, Web and Public Media. (B) Prerequisite(s): FNAR 634. Course Fee \$75.00.

This course introduces advanced topics related to contemporary media technologies, ranging from social media to mobile phones applications and urban interfaces. Students learn how to use new methods from interaction design, service design, and social media and work towards prototyping their ideas using new platforms and media. The class will cover a range of topics such as such as online-gaming, viral communication, interface culture, networked environments, internet of things and discuss their artistic, social, and cultural implications to the public domain.

679. (FNAR279) Studio Lighting. (B) Wahl. Prerequisite(s): FNAR 571 or Permission of Instructor. Course Fee \$75.00.

The necessity of light and how light is rendered in relationship to what is seen and understood, is often a key ingredient in the portrayal of a subject. The origin of the still life can be found in images as far back as antiquity and has dealt with notions of death, science, class, social customs and even sex. Photography picked up on the tradition in 1827 and has not only made use of the form, but has expanded the topic into very unique territories. Contemporary artists have re-invented and re-invigorated the still life, formalism & abstract photography. As a framework for exploring 'hands-on' lighting techniques, students will creatively grapple with the photography of objects in the studio. Working with the physical, symbolic, and conceptual ramifications of depicting specific forms in an image, teamed with the discussion of key texts, critiques, and studio lighting seminars, each student will create a considered and unique portfolio of images.

684. (FNAR284) PHOTOGRAPHY & FASHION. Prerequisite(s): FNAR 571 or FNAR 640 or Permission from Instructor. Course Fee \$75.00.

Since the invention of photography, the fashion industry has been one of the cornerstones of creative expression, innovation and visionary provocation. Contemporary fashion photography has continued to attract a leading group of image-makers that continue the tradition of creating artwork that not only is being published in cutting edge magazines such as V, Another Magazine and Citizen K, but also are exhibiting their work in various galleries and museums around the world. This course is designed for students who are interested in creating contemporary fashion images through specific assignments that define the process: lighting in studio or location, working with fashion designers, stylists, models, hair/make up artists, and the application of a variety of post production techniques, via Photoshop. The class will explore modern constructs that define the importance of branding, marketing, advertising and the relationship of fashion photography in contemporary art and culture today.

685. (FNAR285) Photography and Fiction. (B) Diamond. Prerequisite(s): FNAR 271 or FNAR 640 or Permission of the Instructor.

In spite of photography's traditional relationship with fact, the medium has been a vehicle for fiction since the very beginning. Fiction and photography encompass a broad range of meanings, from elaborately staging and performing for the camera, to manipulations using digital technology such as Photoshop to construct the work. This class will examine and trace the history of manipulated photography while paying special attention to the complex negotiations between the decisive moment, the constructed tableau, and the digitally manipulated image. There will be a combination of class lectures, studio projects, assigned readings, visiting artists, film screenings, field trips, and class critiques.

686. (FNAR286) Visual Narrative. (A) Comberg and Diamond.

Visual Narrative is an introduction to the practice of storytelling with images. From news and information to art, law, and science, visual storytelling is a critical aspect of creating and navigating contemporary culture. This course is situated at the intersection of design, art, and visual culture, focusing on relevant forms and topics including the photo essay, information design and visual explanation, the photographic sequence in contemporary art, scenario design and concept visualization. It proposes that studying and making sequential images and visual essays in a wide range of media - comics and graphic novels, propaganda, environments and installations, social media, animation, video, and digital media-are critical to understanding culture. The course immerses students in the study of narrative craft and creation of visual stories covering topics relevant to designers and photographers. Beginning with the photo series and the photo documentary tradition, the course evolves through multimedia narrative and non-narrative forms. Students will explore principles of narrative construction in design and photography through lecture, studio projects, and with presentations by visiting artists, designers, and photographers.

SM 712. Visual Epistemologies for Creative Practices. (B) Furjan/Telhan.

In this joint seminar between Architecture and Fine Arts, we investigate the alternative modes of diagrammatic thinking that are influencing art and design disciplines. The course provides a historical perspective on the evolution of visual epistemologies from late 1950s and reviews its current state from the lens of contemporary representation theory, computation, fabrication and information technologies. The goal is to gain both theoretical and hands-on experience with the contemporary diagramming techniques in order to advance both designs and the thinking behind them.

999. Independent Study. Staff. Prerequisite(s): See Graduate Program Coordinator for section numbers. Hours and credits arranged.

FOLKLORE (AS) {FOLK}

022. (AFRC050, AFST050, ANTH022, MUSC050) World Music and Cultures. (A) Arts & Letters Sector. All Classes. Muller.

This course examines how we as consumers in the "Western" world engage with musical difference largely through the products of the global entertainment industry. We examine music cultures in contact in a variety of ways-- particularly as traditions in transformation. Students gain an understanding of traditional music as live, meaningful person-to-person music making, by examining the music in its original site of production, and then considering its transformation once it is removed, and recontextualized in a variety of ways. The purpose of the course is to enable students to become informed and critical consumers of "World Music" by telling a series of stories about particular recordings made with, or using the music of, peoples culturally and geographically distant from the US. Students come to understand that not all music downloads containing music from unfamiliar places are the same, and that particular recordings may be embedded in intriguing and controversial narratives of production and consumption. At the very least, students should emerge from the class with a clear understanding that the production, distribution, and consumption of world music is rarely a neutral process.

SM 025. (HIST025, RELS116, STSC028) Western Science, Magic and Religion 1600 to the present. (C) History & Tradition Sector. All classes. Kuklick.

Throughout human history, the relationships of science and religion, as well as of science and magic, have been complex and often surprising. This course will cover topics ranging from the links between magic and science in the seventeenth century to contemporary anti-science movements.

029. (GSWS109, RELS005) Women and Religion. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

Introduction to the role of women in major religious traditions, focusing on the relationship between religion and culture. Attention to views of women in sacred texts, and to recent feminist responses.

SM 082. (GSWS082) Ritual In American Life. (M) Paxton. Freshman Seminar.

Starting with birth and working chronologically through a series of case studies, this course invites students to examine the centrality of rituals that celebrate the human lifecycle as well as overtly competitive sporting and political rituals. We will explore rituals that unfold at the local level as well as those that most Americans experience only via the media. Rituals under examination include birthday parties, Bat Mitzvahs, Halloween, Quinceaneras, Proms, graduations, rodeos, Homecomings, weddings, Greek initiations, beauty pageants, reunions, and funerals. Students will be encouraged to critically examine their own ritual beliefs and practices and consider these and other theoretical questions: What is the status of ritual in post-industrial culture? What distinguishes popular culture from official ritual and secular from religious ritual? How do sociological variables such as race, class, gender, sexuality, and religion shape people's understanding of, and participation in, modern family life? How do contemporary rituals bond Americans at the local and/or national level? All students will be expected to conduct original research on a ritual of their own.

103. (COML103, HIST093, THAR103) Performing History. (M) St. George.

From medieval processions to the Mummer's Parade, from military reenactments to Mardi Gras, communities do more than "write" or "read" history in order to feel its power and shape their futures. Drawing upon traditions in theater, spectacle, religion, and marketing, they also perform their history--by replaying particular characters, restaging pivotal events and sometimes even changing their outcomes--in order to test its relevance to contemporary life and to both mark and contest ritual points in the annual cycle. This course will explore diverse ways of "performing history" in different cultures, including royal passages, civic parades, historical reenactments, community festivals, and film.

106. (AFRC147, ANTH156, MUSC235) Studies in African-American Music. (C) Ramsey.

This course explores aspects of the origins, style development, aesthetic philosophies, historiography, and contemporary conventions of African-American musical traditions. Beginning with the African legacy, we situate the conceptual approaches of African American music within the larger African Diaspora. The

course provides a foundation for the advanced study of the various strains of black musics to appear in the United States. Covering the 19th and 20th centuries, we explore the socio-political contexts and cultural imperatives of black music from a multidisciplinary perspective (musicology, ethnomusicology, linguistics, African-American literary criticism, cultural studies, history, anthropology). The range of genres, styles, idioms, and time periods include: the music of West and Central Africa, the music of colonial America, 19th century church and dance music, minstrelsy, music of the Harlem Renaissance, jazz, blues, gospel, hip-hop, and film music. Special attention is given to the ways in which black music generates "meaning" and to how the social energy circulating within black music articulates myriad issues about American identity at specific historical moments.

L/R 137. (SOC137) Sociology of Media and Popular Culture. (C) Society Sector. All classes. Grazian. Also fulfills General Requirement in Arts & Letters for Class of 2009 and prior.

This course relies on a variety of sociological approaches to media and popular, with a particular emphasis on the importance of the organization of the culture industries, the relationship between cultural consumption and status, and the social significance of leisure activities from sports to shopping. Specific course topics include the branding of Disney, Nike and Starbucks; the globalization of popular culture; the blurring of entertainment and politics; and the rise of new media technologies in the digital age.

158. (AFRC158, LALS158, MUSC158) Musics of Latin America, the Caribbean, and Hispanics in the U.S. (M) Rommen.

This survey course considers Latin American musics within a broad cultural and historical framework. Latin American musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion, and social structure are embodied in and contested through performance. These initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Latin American contexts--concepts such as post-colonialism, migration, ethnicity, and globalization. Throughout the course, we will listen to many different styles and repertoires of music and then work to understand them not only in relation to the readings that frame our discussions but also in relation to our own, North American

contexts of music consumption and production.

201. (ANTH205, RELS205) American Folklore. (C) Staff.

This course will examine American expressive culture, including everyday speech, narrative, music, foodways, religion, public celebrations, and material culture through an exploration of the multiple and changing avenues of diversity in the United States. Folklore can be considered the unofficial culture that exists beneath and between the institutions of power that we read about in our history books, and that is what we will be studying--the 99% of American life that goes unseen and unnoticed in other college courses. Some of the topics we will examine are: campus folklore; body art and adornment; contemporary (urban) legends and beliefs; public celebrations and rituals; and the adaptation and commodification of folk culture in popular media.

203. (AFRC203, AFST213) Afro-American Folklore. (C) Staff.

An overview of the major forms of expressive culture developed by Afro-Americans. The course focuses on the continuous development of black cultural expression from slavery to the present, emphasizing the socio-historical context in which they are to be understood and interpreted.

229. (ANTH226, COML357, NELC249) Myth in Society. (C) Ben-Amos.

In this course we will explore the mythologies of selected peoples in the Ancient Near East, Africa, Asia, and Native North and South America and examine how the gods function in the life and belief of each society. The study of mythological texts will be accompanied, as much as possible, by illustrative slides that will show the images of these deities in art and ritual.

231. American Popular Culture. (M) Lee.

The course will explore the history and practice of popular culture and culture studies in the United States. We will begin by challenging the concepts of "folk," "mass" and "popular" as well as "American" and "culture." Furthermore, we will interrogate various media such as television, film, music, comics and popular romances to gain insights into the conditions for the reproduction of social relations. Through an analysis of audience response to performed or viewed events we will explore how and why people actively negotiate and interpret popular materials.

This class will attempt to situate popular culture within a larger social, cultural and political framework. Some areas of popular culture we may investigate include MTV, talk shows, fashion, club cultures, rap and other musics, snaps, pro-wrestling, professional sports, Hollywood movies, advertising, McDonald's and there will be room to explore other areas students may find interesting. We will end by looking into the exportation of American popular culture and its reception, interpretation, adaptation and consumption around the world.

233. (AFST233) African Folklore. (M) Staff.

"Despite the overwhelming reality of economic decline; despite unimaginable poverty; despite wars, malnutrition, disease and political instability, African cultural productivity grows apace: popular literatures, oral narrative and poetry, dance, drama, and visual art all thrive."-- Kwame Anthony Appiah from *In My Father's House*

What role(s) does folklore play in the lives of Africans today? How has folklore adapted to the realities of contemporary, urban Africa? This course will investigate the continuation of traditional elements produced in diverse media and circumstances in a modern, largely urban, Africa. Although traditional African culture has been transformed and changed in the face of rapid urbanization and modernity, it continues to provide a means through which people enjoy themselves and comment on a wide range of issues affecting their lives. Issues such as identity, difference, and diversity; tradition and history; modernity and development; wealth and power; politics and political change; and gender relations.

SM 240. (COML240, ENGL290) Fairy Tales. (M) Staff.

This course surveys the fairy tale (M rchen) as an oral narrative genre, and in its transformations as literature, sequential art, and film. Topics include classic and contemporary collections from Europe, the United States, and beyond; issues of "authenticity" and the ownership of tales; fairy tales as folk performance, post-modern pastiche, and material culture; and the genre's relationship to geography, gender, power, and desire. This course will serve as a scholarly introduction to the field of Fairy-Tale Studies. And it may examine works from Matthew Bright, Angela Carter, Emma Donoghue, Guillermo Del Toro, Neil Gaiman, David Kaplan, and Bill Willingham.

241. (COML193, ENGL099) Great Story Collections. (M) Arts & Letters Sector. All Classes. Azzolina.

This course is intended for those with no prior background in folklore or knowledge of various cultures. Texts range in age from the first century to the twentieth, and geographically from the Middle East to Europe to the United States. Each collection displays various techniques of collecting folk materials and making them concrete. Each in its own way also raises different issues of genre, legitimacy, canon formation, cultural values and context.

SM 252. (NELC252) Themes in Jewish Tradition. (C) History & Tradition Sector. All classes. Staff.

Course topics will vary; they have included *The Binding of Isaac*, *Responses to Catastrophes in Jewish History*, *Holy Men & Women (Ben-Amos)*; *Rewriting the Bible (Dohrmann)*; *Performing Judaism (Fishman)*; *Jewish Political Thought (Fishman)*; *Jewish Esotericism (Lorberbaum)* Democratic culture assumes the democracy of knowledge - the accessibility of of knowledge and its transparency. Should this always be the case? What of harmful knowledge? When are secrets necessary? In traditional Jewish thought, approaching the divine has often assumed an aura of danger. Theological knowledge was thought of as restricted. This seminar will explore the "open" and "closed" in theological knowledge, as presented in central texts of the rabbinic tradition: the Mishnah, Maimonides and the Kabbalah. Primary sources will be available in both Hebrew and English.

270. (GSWS270) Folklore and Sexuality. (M) Azzolina.

Sexuality is usually thought of as being biological or social, divided into categories of natural and unnatural. Often missed are its creative and communicative aspects. Examining the constructed social elements of sexuality requires attention be paid to folklore in groups, between individuals and on the larger platform of popular technological media. The most interesting locations for exploration are those places where borderlands or margins, occur between genders, orientations and other cultural categories. A field-based paper will be required that must include documentary research.

280. (COML283, JWST260, NELC258, RELS221) Jewish Folklore. (C) Ben-Amos.

The Jews are among the few nations and ethnic groups whose oral tradition occurs in literary and religious texts dating back

more than two thousand years. This tradition changed and diversified over the years in terms of the migrations of Jews into different countries and the historical, social, and cultural changes that these countries underwent. The course attempts to capture the historical and ethnic diversity of Jewish folklore in a variety of oral literary forms. A basic book of Hasidic legends from the 18th century will serve as a key text to explore problems in Jewish folklore relating to both earlier and later periods.

299. Independent Study. (C) Staff.
Directed study at the sophomore level.

323. (HIST323) Material Life in America, 1600-1800. (C) St. George.

This course will explore the history of America's use and fascination with material goods between 1600 and 1860. We will examine such issues as the transfer of European traditions of material culture to the New World, the creation of American creolized forms, the impact of reformers in the late eighteenth and early nineteenth centuries, and the development of regional landscapes. Thematic issues will include consumerism, objects as symbolic communication and metaphor, and the complementary issues of archaeology and history of art in material culture study.

360. (ANTH360, COML362, RELS316) Native American Folklore. (C)
J. Berman.

A survey of the indigenous oral literatures of North America that will read Native American myths and other traditional narratives with the primary aim to exploring their meanings to Native people. Topics will include, among other things, moral and religious significance, performance, aesthetics, humor, and the relationship of myth to landscape and individual life experience. The course will also place the study of Native American folklore in the context of the history of scholarship, and current issues such as cultural renewal, language endangerment, cultural representation, and cultural property rights.

399. Independent Study. (C) Staff.
Directed study at the junior level.

406. (RELS406) Folklore and the Supernatural. (M) Staff.

Some beliefs in the supernatural have not diminished appreciably in modern cultures, in spite of many predictions that they would do so. This course will examine traditional beliefs about supernatural beings, supernatural realms, and humans

who interact with these, as well as the historical development of Western ideas of "the supernatural" itself.

420. Culture, Communication, and Body Language. (M) Staff.

Our perception and interpretation of body language is often subliminal, but is crucial in all communication. This course will develop skills in observation and analysis of nonverbal behavior, with a particular emphasis on cross cultural communication. In contemporary society, the analysis of nonverbal communication has applications in education, psychology, business, advertising, medicine, police work, the justice system, the military, religion, sports, and politics. As video and digital cameras are increasingly being placed in public (and private!) locations, the ethical questions of why, how, and by whom body movements and images are analyzed become a topic of primary importance for society. Clothing, scents, gestures, eye contact, silence, music, dance, the built environment -- all are used to construct relationships and develop markets for the new century. Readings from a number of disciplinary perspectives will give us the opportunity to investigate these and other issues related to the body and to nonverbal communication in multicultural societies.

436. (URBS436) Urban Folklore. (M)
Staff.

This course examines the emergent aesthetic and expressive traditions of urban environments. Cities are unique places with a wide range of folkloric traditions, including neighborhood stories, ethnic festivals, and folk art. We will examine the material, customary, and verbal traditions that emerge in everyday life, including contemporary legends, urban agriculture and food ways, public displays and celebrations, body art, children's play, and Philadelphia's ethnic arts. We will consider how these contemporary practices may be understood within a traditional folklore framework, as well as what these practices reveal about contemporary values, anxieties, and concerns. Course work will involve local field observations and will be of use to anyone studying human interaction, creative processes, or urban ethnography.

SM 485. (COML385, EALC255, THAR485) Japanese Theatre. (B)
Kano.

Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will

cover all areas of the theatrical experience (script, acting, stage design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.

499. Independent Study. (C) Staff.
Directed study at the senior level.

SM 503. (ANTH503, COML512, ENGL503) Issues in Folklore Theory. (C) Staff. An introduction to folklore for graduate students, concentrating upon certain key issues in the theory and history of the discipline.

"Fieldwork" is the term folklorists and scholars in related fields use to describe the process by which they arrive at their discipline's subject matter. This includes everything from the pragmatic issues of collecting and documenting materials to the complex relations involved when people study people. Readings, short writing assignments, and class discussions will probe this spectrum of concerns comprehensively. Brief exercises are planned to experience different aspects of fieldwork. On this background of theory and practice, students will work toward designing a fieldwork based project and draft a funding proposal.

SM 518. (HSPV528) American Vernacular Architecture. (C) St. George.

This course explores the form and development of America's built landscape - its houses, farm buildings, churches, factories, and fields -- as a source of information on folk history, vernacular culture, and architectural practice.

SM 531. (COML560, NELC582) Prose Narrative. (M) Ben-Amos.

The topics of discussion in the course are the following: the nature of narrative, narrative taxonomy and terminology, performance in storytelling events, the transformation of historical experience into narrative, the construction of symbolic reality, the psycho-social interpretation of folktales, the search for minimal units, the historic-geographic method in folktale studies, the folktale in history and the history of folktale research.

SM 532. (COML529, NELC682) Proverb, Riddle and Speech Metaphor. (M) Ben-Amos.

Through readings and collaborative projects this working seminar will explore the place of metaphor in the genres of proverb and riddle and examine their position in oral communication in

traditional and modern societies. Critical readings of former definitions and models of riddles and metaphors will enable students to obtain a comprehensive perspective of these genres that will synthesize functional, structural, metaphoric, and rhetoric theories.

541. (MLA 541) Academic Writing and Research Design in the Arts and Sciences. (M) Rabberman.

Have you ever noticed that scholars in different academic disciplines seem to speak different languages? Have you wondered how scholars put together a plan for their research, explain their findings, and organize and write their papers? This class is designed to introduce MLA students and other advanced students to the research and writing conventions used by scholars in the arts and sciences. With attention to disciplines in the humanities, social sciences, and sciences, we will identify and explore some of the theories, sources, language, and qualitative and quantitative methodologies that scholars use as they conduct original research in their fields. Throughout the class, we'll also discuss writing conventions across the arts and sciences, with special attention to the structure of argument; the use of evidence; voice and style in both traditional academic writing and more innovative forms of writing; and documentation conventions. Students will develop an original research project through incremental writing assignments, and will write a formal research proposal (15-20 pages), which can be used as their Capstone proposal if they wish.

SM 549. (ANTH545) Structural Analysis. (M) Ben-Amos.

In folklore scholarship, structural analysis extends over several genres. In this course we will examine the analysis of genres from structural perspectives, the critique of structural analysis and the current constructive directions that have emerged in the field in response to criticism of structuralism.

SM 603. (ANTH601) Food, Culture, and Society. (M) Staff.

Behind a simple proverb like "You are what you eat" lies a great deal of food for thought. Human beings have always elaborated on the biological necessity of eating, and this course will explore the myriad ways in which people work, think, and communicate with food. The course will survey the major approaches from folklore, anthropology and related fields toward the role of food, cookery, feasting and fasting in culture. Among the topics to

be addressed are gender roles and differences in foodways, the significance of food in historical transformations, the transmission of foodways in writing and publishing, the relationship of foodways to ethnicity and region, the intimate relationship between food and religion, and foodways in the global market place. Short exercises and a term project will provide students with opportunities to research and write about foodways from different angles.

SM 605. (AFST605, ANTH605, COML605, MUSC605) Anthropology of Music. (C) Muller.

This seminar in ethnomusicology examines music from a cultural perspective. We investigate theoretical and methodological issues that arise when music is situated within an ethnographic context. Theories from anthropology and folklore are studied as they have been applied in ethnomusicology, including structural-functionalism, structuralism, symbolic anthropology, and performance theory. Topics include music and social structure; ritual and performance; social change and historical process; class, ethnic identity, and gender. Case studies from around the globe enrich this exploration of music in culture.

SM 606. (COML760, HSSC680) History of Folklore Studies. (C) Ben-Amos.

A survey of the theoretical basis and the historical development of research in international and American folkloristics.

SM 620. (HIST620) Feminist Theories. (M) Staff. When the topic is "Feminist Theories," FOLK 620 will be crosslisted and the following description applies.

This course gives students the opportunity to engage with the most significant theoretical influences upon feminist thought and historical scholarship in the last 35 years. Foucault, Bourdieu, Rubin, Butler, and Freud are just some of the theorists we will discuss. We will also incorporate recent works in feminist film theory and queer theory. Our focus is twofold: working collectively through difficult theory that is too daunting to tackle alone, and exploring possible applications of feminist theory for feminist politics and historical studies of women, gender and sexuality. Approximately half of our course reading will be devoted to work designated as "theory" and the other half to recent applications by historians.

SM 629. (COML662, NELC683, RELS605) Theories of Myth. (M) Ben-Amos.

Theories of myth are the center of modern and post-modern, structural and post-structural thought. Myth has served as a vehicle and a metaphor for the formulation of a broad range of modern theories. In this course we will examine the theoretical foundations of these approaches to myth focusing on early thinkers such as Vico, and concluding with modern twentieth century scholars in several disciplines that make myth the central idea of their studies.

SM 639. (COML639, COMM639) Issues in Cultural Studies. (M) Zelizer.

This course tracks the different theoretical appropriations of "culture" and examines how the meanings we attach to it depend on the perspectives through which we define it. The course first addresses perspectives on culture suggested by anthropology, sociology, communication, and aesthetics, and then considers the tensions across academic disciplines that have produced what is commonly known as "cultural studies." The course is predicated on the importance of becoming cultural critics versed in alternative ways of naming cultural problems, issues, and texts. The course aims not to lend closure to competing notions of culture but to illustrate the diversity suggested by different approaches.

SM 650. Folklore and Critical Regionalism. (M) Hufford, M.

In tandem with global political and economic restructuring, and the related unsettling of national and local identities, scholarship on place has burgeoned. Recently, scholars from multiple disciplines have called for a shift from identity-centered approaches to the study of place and region to a more critical assessment of how the encounter of the local with "the larger than local" is articulated (Shuman, 1993). "Critical regionalism," a term hailing from architectural theory, names an effort to "frame a dialogue between localized dimensionality and the imperatives of international architecture" (Frampton, 1981). One way of framing this dialogue is to examine the imaginaries that span disjunct places "twinned" through those larger than local processes, imaginaries that regionalize from within (Herr, 1996). What are the foundations for such a project in folkloristics, and what is the role of ethnography in cultivating critical regionalism? To get at such questions, we will examine selected regional ethnographies and place-based folklore

programs. Work for the course will include 1) evaluating a regional ethnography and a public program in light of critical regionalist theory and 2) developing, with a partner or group, a proposal for a multi-site ethnography anchored partly in the mid-Atlantic region.

702. Practicum. (C) Hufford, M.

Advanced students may arrange for a practicum. The nature of the learning task and the work to be completed must be discussed both with the student's advisor and the practicum supervisor at the hosting organization or institution. Suitable practicum sites are museums, community or state arts organizations, not-for-profit organizations in the realm of cultural programming and advocacy, etc. The practicum may be taken for credit only once.

706. (ANTH704, COML706, EDUC706, URBS706) Culture/Power/Identities. (A) Hall.

This course will introduce students to a conceptual language and the theoretical tools to analyze the complex dynamics of racial, ethnic, gender, sexual, and class differences. The students will critically examine the interrelationships between culture, power, and identities through the

recent contributions in cultural studies, critical pedagogy and post-structuralist theory and will explore the usefulness of these ideas for improving their own work as researchers and as practitioners.

SM 715. (AFST705, ANTH705, COML715, GSWS705, MUSC705) Seminar in Ethnomusicology. (M)

Muller. Open to graduate students from all departments.

Seminar on selected topics in ethnomusicology. Freedom is a pervasive idea in the twentieth century, in the United States and elsewhere. This seminar will examine a range of texts concerned with the idea of freedom, politically, philosophically, and musically. A key part of the seminar will focus on free jazz, as it has been recorded in the twentieth century, and as it occurs in live performances on Penn campus and elsewhere in Philadelphia.

SM 725. (ANTH725) Bodylore. (M)

Hufford, M.

Bodylore, a term coined in the late 1980s by folklorist Katharine Young, names an emerging subfield focused on the body's role in the making of social meanings. In this seminar, we'll consider the body as it is theorized by Bakhtin, Bourdieu, Douglas,

Harvey, Stewart, Young, and others, and we'll turn to selected ethnographic case studies to explore problems of embodiment. How does the body enact the discourses that constitute it? How do our ways of imagining and interpreting the body bear on our ways of ordering the social and natural world? How is the body's dual status as both mode and object of knowing (Stewart) negotiated in ethnographic and scientific practice? How might a more humanistic ethnography undo and displace the dualisms of mind and body, body and self, and perhaps even return us to the body as a measure of all things (Harvey)? Work for the course will include in-class presentations, participation in electronic and face-to-face discussion about the readings, and a final paper.

SM 770. (AFRC771, MUSC770) Seminar in Afro-American Music. (M) Ramsey.

This seminar treats selected aspects of the history, aesthetics, criticism and historiography of African-American music. Topics will vary each time this course is offered.

999. Independent Study and Research. (C)

Gender Studies and Women's Studies (AS) {GSWS}

003. Introduction to Sexuality Studies and Queer Theory. (A) Adley.

This course will examine major ideas in the field of queer studies. Relying upon theoretical, historical, and cultural studies texts, we will consider the representation and constructions of sexuality-based identities as they have been formed within the contemporary United States. We will explore the idea of sexuality as a category of social identity, probing the identities of lesbian, gay, bisexual and transgender to try and understand what they really mean in various cultural, social, and political milieus. In doing so, we will ask: What does it mean to study queerness? What do we mean by "queer studies"? How do institutions - religious, legal, scientific - shape our understandings of queer identities? In what ways do sexuality and gender interact, and how does this interaction inform the meanings of each of these identity categories? How do other social categories of identification - race, ethnicity, class, etc. - affect the ways in which we understand expressions of queerness? What does studying queerness tell us about the workings of contemporary political, cultural, and social life? What is normal and who/what is it that defines and controls normalcy?

SM 040. (URBS050) Womanism and Identity Politics in the Realm of Hip-Hop. Patterson.

This course centers on the intersections of womanism, woman of color identity development, and agency within hip-hop culture. We will touch on several topics that uncover the condition of minoritized women in hip-hop media, including creating/owning space, lyrical assault, defining womanhood, sexuality, and fetishes. In exploring music, literature, advertisements, film, and television, we will discuss the ways women of color construct understandings of self, while navigating and reimagining reality within hip-hop contexts.

L/R 102. (CIMS112, COML245, ENGL102, PSYS102) Study of a Literary Theme. (C) Arts & Letters Sector. All Classes. Staff.

The primary for this course is the English Department. When the course content includes gender, sexuality and women's studies it will be cross-listed with GSWS. See additional information and description

on the English Department's website:
<https://www.english.upenn.edu>

115. (RUSS115) Before Transgender: Hermaphrodites in 19th Century Literature.

This course provides a literary and cultural prehistory to contemporary discourses on transgender identity by focusing on the figure of the hermaphrodite in 19th Russia and the West. Far from a marginal subject, the hermaphrodite and intersex characters played central roles in the novels of Balzac, Tolstoy, Dostoevsky, and many others whose work we will read in this course. Interdisciplinary in nature, this course draws on 19th century discourses in medicine, psychology, opera, religious philosophy, and political theory to understand why characters who exist outside of the male/female gender binary feature so prominently in 19th century literature and cultural texts across a wide range of traditions (Anglophone, French, and Russian, and others).

128. (COML128, ENGL103) The Diary. (A) Staff.

Diary writing is an intimate mode of expression in which individuals seek to find meaning in their personal lives and relations, responding to the external realities in which they live. Their coping is subjected to their historical, educational and social contexts, and to the generic conventions of diary writing. This course examines the diary as a genre, exploring its functions, meanings, forms and conventions, comparing it with fictive and non-fictive autobiographical writings such as the diary novel, autobiography and the memoir, as well as comparative gender diary-writing.

SM 135. (ENGL135) Creative Non-Fiction Writing. Staff.

A workshop course in the writing of expository prose. Assignments include informal as well as formal essays, covering such topics as autobiography, family history, review, interview, analysis of advertising and popular culture, travel, work, and satire.

See the English Department's website at www.english.upenn.edu for a description of the current offerings

SM 145. (ENGL145) Advanced Non-Fiction Writing. (C) This course is not open to freshmen. Students wishing to take this course must submit a writing sample a part of the selection process. May be repeated for credit with a different instructor.

Writing with a view to publication in the freelance sections of newspapers such as THE PHILADELPHIA INQUIRER and THE NEW YORK TIMES, in magazines such as THE ATLANTIC and THE NEW YORKER, and in the literary quarterlies and the journals of opinion. Among the areas likely to be considered are writing as a public act, issues of taste and of privacy, questions of ethics and of policy, methods of research and of checking, excerpting, marketing, and the realistic understanding of assignments and of the publishing world. Student papers will be the basis of weekly editorial sessions, with concentration on the language: how to render material literate, how to recognize and dispose of padding and self-indulgence, how to tighten structure and amplify substance.

See the English Department's website at www.english.upenn.edu for a description of the current offerings

SM 150. (AFRC153, ANTH150) Black Queer Studies: A Diasporic Approach. (M) Staff.

This interdisciplinary course explores over two decades of work produced by and about black queer subjects throughout the circum-Atlantic world. While providing an introduction to various artists and intellectuals of the black queer diaspora, this seminar examines the distinct socio-cultural, historical and geographical contexts in which "black queerness" as a concept is embraced or contested. We will interrogate the transnational and transcultural mobility of specific aesthetics as well as racial and sexual identity categories more broadly using ethnography, poetry, painting, film, photography and literature. Our aim is to use the prism of artistry to highlight the dynamic relationship between African Diaspora Studies and Queer Studies.

SM 212. (ANCH212, CLST213) Women in Imperial Rome. (C) Gillespie.

Livia, the first empress of Rome, is a critical figure for our understanding of Roman women at the transitional moment between Republic and Empire. As the most publicly celebrated woman of Augustus' household, Livia is an opportune figure through which to examine a variety of Augustan and early imperial texts and monuments.

This course will survey Livia's different literary and material representations and attempt to come to terms with the various perspectives on the first empress presented by these texts and contexts. Livia provides a key figure through whom students will be exposed to various issues surrounding the portrayal of Roman women in the early empire. Through lecture and discussion, we will relate Livia to her contemporary world, and then examine the role of imperial women through the rest of the Julio-Claudian era and beyond. We will discover Livia's influence in creating the role of the empress, and analyze the differences between her representation as an ideal and that of later imperial women. Students will write brief response papers to primary texts and present on select secondary readings that add to our understanding of the portrayal of Livia and imperial women more generally.

216. (HSOC216) Women and Health. (M) Staff.

This course explores the ways in which the production of medical knowledge, the provision of health care, and the experiences of health, illness, and bodily changes are gendered and will consider how and why they are gendered in different ways in different parts of the world. The course begins with an introduction to relevant theoretical materials from feminist studies, anthropology, sociology and political economy, on sexuality, the body, and reproduction. Students will then read ethnographic material that analyzes experiences such as sexual maturation, reproduction, eating disorders, aging, and sex work - as well as ordinary encounters with medical systems - as experienced through and with the gendered body in a variety of contexts around the world. Students will have the chance to conduct ethnographic interviews, and will write final research papers that integrate this ethnographic material, along with library material, in the study of a particular gendered medical experience in the U.S. or another region of the world. Note: both men's and women's health issues will be addressed.

SM 217. (SAST217) CU In India - Topics Course. (E) Staff.

C.U. in India is a hybrid, domestic/overseas course series which provides students with the opportunity to have an applied learning and cultural experience in India. The 2-CU course requires: 1) 15 classroom hours at Penn in the Fall term 2) A 12-Day trip to India with the instructor during the winter break to visit key sites and conduct original

research (sites vary) 3) 15 classroom hours at Penn in the Spring term and 4) A research paper, due at the end of the spring term. Course enrollment is restricted to students admitted to the program. For more information, and the program application, go to <http://sites.sas.upenn.edu/cuinindia>

SM 230. (HIST230) Topics in European History. (C) Staff. Topics in European History.

Topics vary

SM 244. (ANTH243, HSOC289) Critical Methods in Sexuality Studies. (C) Staff.

How do we read, record, and write histories and practices of sexual difference --in the archives, on Tumblr, or in a dyke bar? This seminar examines the links between queer politics and method. We will ask how differences in sexuality are understood and described in sexuality studies, anthropology, literature, and cultural texts. We will also consider counter archives, ephemeral objects, live performance, and subcultural scenes in the making of queer knowledge. How might emphasizing practices, not identities, modify our understanding of representation, evidence, and interpretation? In our search for unrecognized and intangible modes of evidence, we will necessarily ask what a body and its difference might be beyond easily legible forms of subjectivity. We will also experiment with video, blogging, co-teaching and diverse forms of research and writing.

SM 254. (EALC255, EALC655, GSWS654, THAR485) Japanese Theater. (C) Kano.

Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.

SM 269. (ENGL259) Topics In Modernism. (M) Staff.

This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year. Past offerings have included seminars on the avant-garde, on the politics of modernism, and on its role in shaping poetry, music, and the visual arts.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 292. (CIMS202, COML292, ENGL292) TOPICS FILM STUDIES. (M)

L/R 294. (ARTH294, ARTH694, COML291, ENGL059, VLST236) Art Now. (M) Silverman, K.

One of the most striking features of today's art world is the conspicuous place occupied in it by the photographic image. Large-scale color photographs and time-based installations in projections are everywhere. Looking back, we can see that much of the art making of the past 60 years has also been defined by this medium, regardless of the form it takes. Photographic images have inspired countless paintings, appeared in combines and installations, morphed into sculptures, drawings and performances, and served both as the object and the vehicle of institutional critique. They are also an increasingly important exhibition site: where most of us go to see earthworks, happenings and body-art. This course is a three-part exploration of our photographic present.

This course will be a three-part exploration of our photographic present. In the first part, we will look at the role played by the photographic image in the post World War II "return to the world. In the second part, we will examine the suspicion under which this image falls in the 1970's and 1980's, and the derealization to which it is subjected. In the third part, we will focus on artists who adopt a very different relationship to photography: who see it as a "trace," instead of a representation, and use it to mourn what is gone, remember what has been forgotten or repressed, and reorient themselves to others and the world.

SM 296. (COML291, ENGL294) Topics In Literary Theory. Staff.

This course explores an aspect of literary theory intensively; specific course topics vary from year to year. It is an English course that is cross-listed with GSWS when the topic includes gender, sexuality and women's studies. Please check out the English Department's website for the current semester's description.

SM 301. (ARTH301, CIMS301, FREN301) FRENCH IDENTITY. (C)

SM 313. (ARTH313, EALC353) Topics in East Asian Art.

Topic varies.

SM 322. (CIMS322, COML322, SOCI322) Advanced Topics in Global Gender and Sexuality Studies. (A) Staff.

How do sex and gender become sites of cultural production, identity-formation, and contentious politics? This seminar engages these questions in the context of the "Middle East" as a constructed geopolitical space for imperial politics and political intervention. The class is divided into three units. In the first unit, we engage feminist and queer theories to discuss the shifting meanings of "sex" and "gender" in transnational and postcolonial contexts. In the second unit we explore the contextual and shifting notions of "private" and "public" as they have been elaborated in political theory, feminist theory, and media studies. We also consider how different media technologies enable and constrain the performance and expression of gender and sexual identities. In the last unit, we examine the material and symbolic construction of sex and gender in the shadow of Orientalism, the War on Terror, Multiculturalism, and the recent Arab uprisings. In this unit, we consider how geopolitics are refracted in public controversies around issues like gay rights, female genital mutilation, the veil, and honor killing.

SM 326. (AFRC326, CIMS326, GSWS526) Theories in Gender and Sexuality Studies. (A) Keirbeck.

Prerequisite(s): A prior course in gender, sexuality and women's studies.

What are queer cultural experiences and values? Many academics and social movements have noted that the radical aspirations of queer theory and activism not only disrupt but also shore up neoliberal ideologies. In this course students will explore the historical and co-emergence of queer cultures and neoliberalism by examining the promises and pitfalls of queer politics over the past quarter century. The coining of "queer theory" by Theresa de Lauretis in 1990 was intended as a disruptive joke. Its provocation resided in joining "queer," an appropriation of street slang bandied about among New York City activists and artists in the 1980s, to "theory," the passport of privilege in academic life. The irreverence of her joke exemplifies a central ethic of queer experience that renders palpable the tensions between margins and centers. The course will traverse scholarship from economic and queer anthropology, history, sociology & science studies, philosophy, political theory and literary studies.

This wide survey of literature will allow students to develop an understanding

of the political and economic processes that have conditioned the emergence of queerness as a diverse range of ethical commitments in particular sociocultural contexts globally. Students will investigate the affective dimensions of the emergence of queer theory, studies and activism within the United States and elsewhere in the context of global neoliberal social reforms. The course is split into four units: 1) In the Place of Queer Origins; 2) Queer Values; 3) Queer Circulations and Subjectivities; and 4) Queer Temporalities.

SM 328. (CIMS328, ENGL290, THAR275) Feminist & Queer Aesthetics: Art, Theater, Film, and Visual Culture. (C) Staff.

In 1971 Linda Nochlin provocatively inquired, "Why have there been no great women artists?" Her polemic ignited new waves of knowledge production about the world making possibilities of female, feminist and "outsider" art. This seminar considers art at the margins and how it reimagines the visual to perform a rebuttal to male dominated art are scenes, heteronormative aesthetics, and racist art markets. Working at the intersection of queer studies, feminist art historical practice, theater, and cinema studies, we will interrogate the aesthetics of identity politics. How does feminist art compel new directions in the way we conceive of labor, value, process, and circulation? How do art practices contest and rewrite normative meanings of bodily and sexual difference? Our class privileges art as a transformative mode of language and critique as we bridge visual culture and scholarship to create multiple lenses of analysis.

We will consider diverse genres, for example, body art, photography, film, process art, literature and epistolary forms. We will examine how amateurism, deskilling, display, and objectification become strategic performances of feminist and queer identities and political refusal. Configurations of community, such as appropriation, co-optation, "selling out," and safe space will be interrogated. Finally, we will look at the "Occupy Museum" movement to think about the institutionalization of marginalized art forms and makers.

SM 333. (HSOC334) Birth Culture & Medical Technology. (M) Mackenzie.

How we are born and give birth can vary more than most people realize. Until the rise of medical technology, women gave birth at home surrounded by other women. Now, the majority of Americans are born in hospitals, and a large percentage of those

birth are the result of surgical interventions. This course will explore the medicalization of birth, as well as the movements dedicated to promoting home birth, natural birth, and midwifery. Many of the readings will examine birth from an unapologetically feminist and/or holistic perspective, and we will discuss the psychological, political, cultural and spiritual dimensions of birth practices. We will also consider the impact of increasingly sophisticated medical technology on conception and pregnancy, including in vitro fertilization, surrogate mothers, and extending the childbearing years well into late life. An important theme throughout will be the concept of "appropriate technology" -- which technologies are appropriate and who decides? Readings will be drawn from a number of sources, principally midwifery, nursing, and medical journals.

SM 353. (ENGL353) Topics In 19th-Century American Literature. (M) Staff.

The primary for this course is the English Department. When the course content includes gender, sexuality and women's studies it will be cross-listed with GSWS. See additional information and description on the English Department's website: <https://www.english.upenn.edu>

SM 369. (ANTH369, ENGL369, PSYS369) Topics In Poetry and Poetics. (M)

SM 391. (SPAN390) INTRO SPAN AMER LIT. (M)

SM 397. (LALS398, SPAN397) History of Spanish American Culture. (M)

Staff. Prerequisite(s): Spanish 219.

Topics vary. Please see the Spanish Department's website descriptions for a description of the current offerings. <http://ccat.sas.upenn.edu/roml/spanish/undergraduate/courses.html>

423. Gendered Constructions of Other Cultures in Western Travel Literature. Rabberman.

Descriptions of peoples from foreign lands and faraway places have captured the imaginations of Europeans for centuries. Pilgrims and merchants, explorers and conquistadores, Victorians taking their Grand Tour and 21st century travelers have preserved their observations, both in written form, in ethnographies and diaries, novels and travel narratives, and in visual form, in maps, illuminated manuscripts, engravings, and photographs. Through these media, these travelers have not

simply captured their memories, but have also helped to shape Western representations of the people they encountered. In the process, these travelers often have justified Western political, economic, cultural, and social dominance, although instead some travelers have critiqued the West. And in all these depictions, gender and sexuality have played central roles in the creation of these identities and relationship.

SM 434. (ANTH434) The Politics of Ugly. (M) Carelock.

Venus was the God of Beauty and Love yet she was married to Hephaestus, the mangled, grumpy and for all intents and purposes, ugly god. Why juxtapose such distinct figures? Are they doing the same job? The course discusses the interplay between ugliness and politics with focus on a number of central concepts such as race, social conflict, nationalism, ideology, dictatorship, propaganda and autonomy. Emphasis is put on the double role of the deployment of ugliness, as reinforcement of ideological and political ideas and as a force of social criticism. How does the state justify its own existence by the use of aesthetic narratives? How does the State identify undesirables? This class highlights how groups who feel somatically alike behave, and how their boundaries form and change over time. The focus will be interdisciplinary and multi-national, with case studies from past and present. The class will have a digital media focus as we will delve into issues of representation particularly with respect to race. For example, we will delve into the aesthetic discussion of northern and southern Sudanese as well and Hitler's Germany.

475. (THAR475) ADVD TPCS IN PERFORMANCE. (M)

SM 485. (PHIL485) Topics in Gender Theory. (M) Staff.

This course seeks to assemble some of the philosophical evidence for feminist claims that traditional political theories are fundamentally inadequate because they have not, and presumably cannot, deal with basic facts of gender and the oppression of Women. We will begin by examining the nature of the distinction between sex and gender. This will take us through discussions of: the meaning and significance of categories being socially constructed, the possibility that sexual differences (and inequalities) are in some sense natural and what normative force this has. We will then consider various attempts to describe the nature of women's oppression. What is it? How does it

manifest itself in the lives of women? This will take us through discussions of freedom, constrained choice, ideology, "consciousness raising", androcentrism and the relation between, and methodological importance of, ideal and non-ideal theory. Along the way we will be constructing a version of the feminist framework known as the dominance approach and seeing how it analyzes three presumed sites of oppression: sexuality, reproduction and work/family. Among the authors we will be reading are: Elizabeth Anderson, Marily Frye, Sally Haslanger, Rae Langton, Anthony Laden, Catherine MacKinnon, and Susan Okin.

The prerequisite for UNDERGRADUATES taking this course is: two philosophy courses (ONE of which is in moral or political philosophy) OR ONE of the following Gender Studies courses: GSWS/PHIL 028, GSWS/PoliSci 280, GSWS 320. There will be one short paper (6-8 pages) with revision, a longer final paper (15 pages) and weekly one-page reflections on a topic from the previous week's discussion.

SM 488. (AFRC488, ANTH488, SOCI488) Topics: Culture, Sexuality and Global Health. (A) Fiereck.

What does it mean to claim that "Homosexuality is un-African"? This course explores the linked histories of race, nation, gender and sexuality in Africa that such an ideological claim invokes, yet effaces. The polemics that produce statements like this play out through the disciplinary tensions that exist between African and sexuality/queer studies. These tensions have as much to do with the role played by the relation between sexuality and race within cultures of European colonization, as they have with the role of gender and sexuality within postcolonial power relations in Africa. Such antagonisms are sustained through the marginalization of gender and sexuality perspectives within postcolonial scholarship on Africa, as well as the bracketing of African perspectives in queer and feminist studies. This course will deconstruct these impasses by exploring scholarship at the margins of each area of study. Students will be encouraged to ask questions about how issues of race, ethnicity, nation, gender and sexuality are produced as suppressed presences in a range of texts, films and other materials.

The course will include readings from postcolonial, gender, sexuality and African studies, anthropology, history, literary studies and Marxism, giving students a grounding in historical and contemporary

perspectives at the intersection of African, queer and feminist studies.

SM 509. (COML509, ENGL591, GRMN509, JWST509, YDSH509) TOPICS IN YIDDISH LIT. (M)

) "Jewish Women Writers" is a graduate seminar also open to advanced undergradu The seminar will consider works by Jewish women who wrote in Yiddish, Hebrew, Ee

SM 517. (SOCI517) WORK AND IDENTITY. (M) Jacobs, Leidner.

The thinkers whose work formed the foundations of sociological theory considered the nature of the relationship between work and identity key to understanding social solidarity, power, and historical change. In recent years, the division of labor, structures of work, and employment relations have all been undergoing rapid change, necessarily affecting the possibilities for constructing identity through work. This seminar examines how changes in the nature and organization of work have reshaped the relationship between work and identity.

SM 524. (COML522, ENGL525) CHAUCER. (M) Staff.

An advanced introduction to Chaucer's poetry and Chaucer criticism. Reading and discussion of the dream visions, Troilus and Criseyde, and selections from Canterbury Tales, from the viewpoint of Chaucer's development as a narrative artist.

SM 525. (GRMN526) The Trouble with Freud: Psychoanalysis, Literature, Culture. (C) Weissberg.

For professionals in the field of mental care, Freud's work is often regarded as outmoded, if not problematic psychologists view his work as non-scientific, dependent on theses that cannot be confirmed by experiments. In the realm of literary and cultural theory, however, Freud's work seems to have relevance still, and is cited often. How do we understand the gap between a medical/scientific reading of Freud's work, and a humanist one? Where do we locate Freud's relevance today? The graduate course will concentrate on Freud's descriptions of psychoanalytic theory and practice, as well as his writings on literature and culture.

SM 526. (COML525, ENGL590) Theories: Gender, and Sexuality Studies. (M) Staff. Prerequisite(s): A

prior course in gender, sexuality and women's studies.

Theories in Gender and Sexuality: Objects, Ideas, Institutions foregrounds new works in feminist thinking which circumvent and

resist stale modes of teaching, in learning and knowing difference and "the woman question." Our aim is to interrogate the normative directionality of feminist "waves" and additive and intersectional models of suturing gender and sexuality to minoritarian politics. We will conceptualize feminism as relational to studies of affect, object oriented ontology, animality, feminist science, and aesthetics.

SM 527. (AFRC527) Race, Gender and Auto/Biography. (C) Sanders.

This course examines the lived and shared experiences and representations of Caribbean and Latin American women. We will discuss the relationship between gender, labor, sexuality, religion, and race in the Caribbean and the ways these concepts intersect with women's individual subjectivity and national identity. By examining primary sources—such as speeches and letters—alongside historical scholarship, literature, and popular media, we will study the impact of slave society and colonial pasts on representations of women and construction of womanhood in the modern Caribbean and Latin America and the diasporas through the 20th century. Beginning with late-18th century and ending with contemporary migration narratives of each country, we will study the local and regional political conditions that informed gender norms, social movements, and characterizations of Caribbean sexuality globally. In our historical examination, we will question some of the iconic representations of Caribbean and Latin American women—the racially mixed temptress, the pious matriarch, and the poor uneducated laborer—to understand the meaning, purpose and usages Caribbean women's bodies as objects of praise, possession, obsession and/or ridicule by communities, governments and religions within and outside of the Caribbean.

In our interrogation of gender meanings, we will consider the ways Caribbean women and men define themselves and each other, while considering the intersections of color, class, religion and culture on the political and social realities of the Caribbean and the region. The geographic scope of the course will extend to Haiti, the Dominican Republic, Jamaica, Cuba, Puerto Rico, Costa Rica and Trinidad & Tobago. The following interrelated questions will anchor our exploration of each text: How have representations of Caribbean and Latin American women informed historical constructions and rhetoric of the region and national identity? What political and social strategies have Caribbean women and men

used to define themselves in their countries and throughout the region? How do the history and contemporary conditions of a post-colonial nation impact the gender construction of Caribbean identities? What is the relationship between modern Caribbean gender identities and the regional racial and economic politics?

SM 536. (COML546, ENGL546, FREN537, HIST537) The Novel and Marriage. Joan DeJean.

Historians have argued that early novels helped shape public opinion on many controversial issues. And no subject was more often featured in novels than marriage. In the course of the 18th and the 19th centuries, at a time when marriage as an institution was being radically redefined, almost all the best known novels explored happy as well as unhappy unions, individuals who decided not to marry as well as those whose lives were destroyed by the institution. They showcased marriage in other words in ways certain to provoke debate. We will both survey the development of the modern novel from the late 17th to the early 20th century and study the treatment of marriage in some of the greatest novels of all time. We will begin with novels from the French and English traditions, the national literatures in which the genre first took shape, in particular Laclos' *DANGEROUS LIAISONS*, Austen's *PRIDE AND PREJUDICE*, Bronte's *JANE EYRE*, Flaubert's *MADAME BOVERY*. We will then turn to works from the other European traditions such as Goethe's *ELECTIVE AFFINITIES* and Tolstoy's *ANNA KARENINA*. We will begin the course by discussing the novel often referred to as the first modern novel, *THE PRINCESS DE CLEVES*. This was also the first novel centered on an exploration of questions central to the debate

We will begin the course by discussing the novel often referred to as the first modern novel, *THE PRINCESS DE CLEVES*. This was also the first novel centered on an exploration of questions central to the debate about marriage for over two centuries - everything from the question of whether one should marry for love or for social position to the question of adultery. Each week, we will discuss the changing definitions of the word "marriage" in various European languages. We will also discuss the laws governing marriage as a civil and as a religious institution were evolving in various European countries. All readings will be in English. Opened to advance undergraduates with the permission of the instructor.

SM 539. (RELS539) Medieval and Early Modern Women Visionaries. (C) Matter.

This graduate seminar will examine the works of women visionaries of the Christian tradition in the medieval and early modern periods, including Hildegard of Bingen, Catherine of Siena, Teresa of Avila, and others. All readings will be available in English. A research paper will be required from each student.

SM 544. (ENGL544) Science of Sex & Sexuality. Staff. Prerequisite(s): This is an advanced seminar for MLA students.

The author of a New York Times article entitled "On Being Male, Female, Neither or Both" concluded her comments with the following statement: "The definition of sex was (and is) still up for grabs." In our post-modern world, we have become accustomed to the malleability of gender identity and sexuality. We are also aware that individuals undergo sex reassignment surgeries but by and large we assume that transgender people are transitioning from one discrete category to another. Queer activists certainly challenge this assumption, preferring to envision sex, gender, and sexuality on a continuum, but these days even scientists don't concur about a definitive definition of sex. Should sex be defined chiefly by anatomy? Chromosomes? The body's ability to produce and respond to hormones? If the boundaries of biological categories can be contested, what are the implications for culturally constructed ideas about gender identity and sexuality.

SM 545. EXPERIMENTAL COURSE. (M)

574. (ARTH505) Masters in Liberal Arts Proseminar. (M) Staff.

Topic varies.

SM 579. (ENGL456, THAR579) Provocative Performance. (M) Malague.

This course will examine a wide array of performance pieces by and about women, designed to provoke social, political, and personal change. Ranging from the serious to the hilarious (and sometimes outrageous), our readings will center on plays and performance art; we will also study live and filmed pieces, attend course-related productions in the city and on campus, and incorporate contextual material on feminist theatre theory and history.

SM 584. (PSCI584) Political Philosophy. (M) Hirschmann.

An examination of basic theoretical problems of political science divided into three parts. First, specific features of social sciences will be examined and three most important general orientations of social sciences (analytical, interpretative and critical) will be compared and analyzed. Second, basic concepts of social and political sciences will be studied: social determination, rationality, social change, politics, power, state, democracy. Third, the problem of value judgments will be considered: Is there a rational, objective method for the resolution of conflicts in value judgments? Is morality compatible with politics?

SM 589. (COML590, ENGL590, LALS590) REC ISSUE IN CRIT THEORY. (M)**SM 630. (EALC230, EALC630, GSWS234) Gender and Religion in China. (A)** Cheng.

This course examines gender in Chinese religious culture from ancient to contemporary times. We will explore topics including the Buddhist accommodation of Chinese family system, Chinese transformation of the bodhisattva Guanyin, female deities in Daoist and popular religious pantheons, writings about religious women, female ghosts and fox spirits in literary imagination and folk tales, and the significance of yin force in Chinese medicine and Daoist alchemy. Through the case of China, we will look at how gender plays critical and constitutive roles in religious traditions, and how religion can be used both to reinforce and to challenge gender norms.

SM 640. (COML643, FREN640) STUDIES IN RENAISSANCE.**SM 654. (EALC255, EALC655, GSWS254) Japanese Theater. (C)**

Kano. Prerequisite(s): Reading knowledge of Japanese and/or previous coursework in literature/theater will be helpful, but not required.

Japan has one of the richest and most varied theatrical traditions in the world. In this course, we will examine Japanese theater in historical and comparative contexts. The readings and discussions will cover all areas of the theatrical experience (script, acting, stage design, costumes, music, audience). Audio-visual material will be used whenever appropriate and possible. The class will be conducted in English, with all English materials.

SM 670. (AFRC670, EALC541, HIST670) Topics in Trans Regional History. (C) Brown.

What do historians gain by approaching the past with an awareness of the body as a material and historically contingent entity? In this course we consider several different ways of imagining historical bodies and the body in history. Our readings will explore how events and new social, racial, economic and political formations influence how contemporaries imagined and described bodies and their capacities. We will also explore whether the body itself might be a dynamic source of historical change. Among the topics we will discuss are: medical theories about bodies, epidemics and their impact; sensory capacities; capacities for physical labor; cultures of violence; reproductive capacities and politics; coerced immigration; fashion, beauty, and grace; and the state's interest in mobilizing bodies to serve imperial, economic, and military agendas.

SM 731. (COMM731) Beautiful People. (M) Pearl.

Have concepts of beauty changed over time? According to Darwin, the meaning of facial expressions and emotions are consistent across cultures and are universally understood. Modern scholarship would have us believe that notions of human beauty are framed by facial symmetry and reproductive fitness, while fashion magazines seem to challenge both these claims. What role does technology play in communicating and shaping ideas of beauty? By the same token, to what extent is technology deployed in service of the ideas of those behind the lens? In this course, we will explore changing notions of beauty and their relationship to the technologies and media through which it is viewed.

SM 740. (AFRC740, HIST740) Research Seminar in Middle Eastern History. (M) Staff.

Research seminar on selected topics in Middle Eastern history. See the History's Department website for course description.

SM 762. (SAST762) Topics in: Women in South Asia. (C) Sreenivasan.

This course on women in South Asian history has several objectives. To comprehend the genres of narratives in which South Asian women between the sixteenth and twentieth centuries have spoken and have been spoken about. To gain an understanding of evolving institutions and practices shaping women's lives, such as the family, law and religious traditions. To understand the impact of

historical processes -- the formation and breakdown of empire, colonialism, nationalism and decolonization -- upon South Asian women between the sixteenth and twentieth centuries. We will read primary sources in addition to familiarizing ourselves with the historiography of women in South Asia.

771. (EALC771) Current Japanology. (M) Staff.

Major trends in scholarship as reflected in important recent publications, especially formative books and periodical literatures. The trajectory within certain disciplines as well as the interaction among them will be critically evaluated in terms of gains and losses. Implications of these theses in the planning of graduate and postgraduate research.

SM 793. (ARTH793, CIMS793, ENGL797) Topics in Cinema and Media. (M) Staff.

Topics vary. Please refer to the History of Art Department's website for the course description:
<http://www.sas.upenn.edu/arhistory>.

SM 830. (NURS830) RES IN GLOBAL WMN HEALTH. (A)

The course focuses on critical examination of theoretical and methodological issues pertaining to research on women and girls conducted around the world across disciplines. A focused and intensive exploration of place as it pertains to women and girls in formal and informal structures of health care delivery as those needing and/or seeking health care, and as those providing health care to others. We will examine multiple dimensions and qualities of these endeavors (e.g. activity, power, control, visibility, value, and remuneration) and the intersection of gender and health - locally, globally and across borders. We will focus our examination on the implications of seeking and providing health care for women's and girls' health and well-being. By examining issues in local and global contexts and across geographical boundaries, we will have the opportunity to challenge gendered, class, political, and cultural assumptions related to women's health. Invited guest speakers will highlight examples of research in global women's health representing multiple disciplinary perspectives.

All Undergraduate and Graduate Courses (formerly GSOC)

002. Gender and Society. (C) Society Sector. All classes. Staff. Requirement for Gender, Sexuality and Women's Studies major.

This course will introduce students to the ways in which sex, gender, and sexuality mark our bodies, influence our perceptions of self and others, organize families and work like, delimit opportunities for individuals and groups of people, as well as impact the terms of local and transnational economic exchange. We will explore the ways in which sex, gender, and sexuality work with other markers of difference and social status such as race, age, nationality, and ability to further demarcate possibilities, freedoms, choices, and opportunities available to people.

L/R 004. (SOCI004) The Family. (C) Society Sector. All classes. Harknett.

Historical and cultural development of the family, analysis of sexual codes; discussion of role difference between men and women; factors involved in mate selection and marital adjustment; analysis of family disorganization with both individual and societal implications.

007. (SOCI007) Population and Society. (C) Society Sector. All classes. Flippen, Harknett, Kohler, Zuberi.

The course serves as an introduction to the study of population and demography, including issues pertaining to fertility, mortality, migration, and family formation and structure. Within these broad areas we consider the social, economic, and political implications of current trends, including: population explosion, baby bust, the impact of international migration on receiving societies, population aging, racial classification, growing diversity in household composition and family structure, population and environmental degradation, and the link between population and development/poverty.

SM 008. (COML014, NELC008) Critical Speaking Seminar. (C) Rafii.

American political discourse, especially since September 11th, has often depicted Islam as an oppressive force from which both Muslims and non-Muslims, particularly women and gender/sexual minorities, must be saved. In this CWiC critical speaking seminar, we will investigate how oral and written narratives—such as political rhetoric, apologetics and historical sources—claim to establish unassailable "facts" about Islam, Muslims and the Middle East. We will also

investigate how the notion of empire—both in its traditionally understood form in Islamic and European history, as well as in its iterations as US Military and soft power—privileges certain voices over others, and how we can reclaim the voices of the marginalized in both contemporary discourse as well as historical oral traditions.

SM 009. Critical Writing Seminar In Women's Studies. (C) Staff.

This is a critical writing seminar. It fulfills the writing requirement for all undergraduates. As a discipline-based writing seminar, the course introduces students to a topic within its discipline but throughout emphasizes the development of critical thinking, analytical, and writing skills. For current listings and descriptions, visit the Critical Writing Program's website at www.writing.upenn.edu/critical.

SM 016. (AFRC016, CIMS016, ENGL016) Topics in Literature. (C) Staff. Freshman Seminar.

Freshman Seminars under the title "Topics in Literature." When the course content includes women, gender and sexuality this course will be cross listed with GSWS. Freshman seminar under this title will afford the entering student the opportunity to explore a particular and limited subject with a professor whose current work lies in that area. Small class-size will insure all students the opportunity to participate in lively discussions. Students may expect frequent and extensive writing assignments, but these seminars are not writing courses; rather, they are intensive introductions to the serious study of literature. Consult Program for detailed descriptions.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 028. (COML028, PHIL028) Introduction to Feminist Philosophy. (M) M. Meyer. Offered through the College of Liberal and Professional Studies.

Feminist theory grows out of women's experiences. In this course we will investigate how some contemporary feminist thinkers' consideration of women's experience has caused them to criticize society and philosophy. Traditional philosophical areas addressed may include ethics, social and political philosophy, aesthetics, philosophy of religion, and epistemology.

SM 041. (SOCI041) Topics in Sociology. (C) Staff.

Freshman Seminars. Topics vary from semester to semester. Past offerings include Society and History; The 1960's: Preludes and Postludes; Mistakes, Errors, Accidents & Disasters; Urban Analysis with Computers; Race and Public Policy; Perspectives on Inequality; Homelessness and the Urban Crisis.

045. (ENGL045) 18th-Century Novel. (C) Staff.

This survey of the novel addresses key questions about the novel's "rise" in the eighteenth century on both sides of the Atlantic, as well as attending to the cultural conditions that attended this new literary form. How did the concurrent "rise" of the middle classes and the emergence of an increasingly female reading public affect the form and preoccupations of early novels? What role did the institutions like literary reviews, libraries, and the church play in the novel's early reception? While reading will vary from course to course, students should expect to read such authors as Austen, Behn, Brockden Brown, Burney, Defoe, Fielding, Richardson, Rowlandson, Rowson, Scott, and Smollett.

This course will be cross-listed with GSWS when the course content includes women, gender and sexuality. See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

055. (COML055, ENGL055) Nineteenth-Century Novel. (M) staff. Fulfills Arts & Letters Distribution.

During the nineteenth century the novel became the dominant literary form of its day, supplanting poetry and drama on both sides of the Atlantic. In this introduction to the novelists of the period, we will read the writers who secured the novel's cultural respectability and economic prominence. Likely authors will include Austen, the Brontes, Collins, Dickens, Eliot, Hardy, Hawthorne, Melville, Poe, Thackeray, Scott, and Stowe. The course will explore the themes, techniques, and styles of the nineteenth-century novel. It will focus not only on the large structural and thematic patterns and problems within each novel but also on the act of reading as a historically specific cultural ritual in itself.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

060. (ARTH070, COML070, ENGL070, LALS060) Intro to Latina/o Literature: Beginnings to 1898. (M) Staff.

A survey of cultural productions by Latinas/os (i.e. people of Latin American descent who have been raised in the U.S.) that usually will focus on the twentieth century, but might at times examine earlier periods instead. The course will take a culturally and historically informed approach to a wide range of novels, poems, plays, and films, and will sometimes include visual art and music. Writers and artists might include Am©rico Paredes, Piri Thomas, Cherrie Moraga, Sandra Cisneros, Julia Alvarez, Junot Diaz, Cristina Garcia, El Teatro Campesino, John Leguizamo, Carmen Lomas Garza, the Hernandez Brothers, and Los Tigres del Norte.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

075. (FOLK075, MUSC075) Jazz Style and History. (M) Ramsey, Parberry.

Music 075 401 (Dr. Ramsey): Exploration of the family of musical idioms called jazz. Attention will be given to issues of style, to selected musicians, and to the social, cultural, and scholarly issues raised by its study. Music 075 601 (Professor Parberry): Development of jazz from the beginning of the 20th Century to present. Analysis of the stylistic flux of jazz, such as the progression from dance music to bebop and the emergence of the avant-garde and jazz rock. Attention will be given to both the artists who generated the changes and the cultural conditions that often provided the impetus.

090. (AFRC090, COML090, ENGL090) Gender, Sexuality, and Literature. (C) Staff.

Focusing on literature by and/or about women, this course examines women as readers, writers, and subjects of literature. Works studied vary considerably from semester to semester and may include a wide range of works from various countries and in various genres, often selected to allow for examination of theoretical issues such as feminist humor, feminist literary theory, women and popular culture, and the place of women in the literary mainstream. Often special attention is paid to the experience of minority women. For additional information, please see English's website for a description:

<https://www.english.upenn.edu>

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

096. (COML096, ENGL096) Theories of Gender and Sexuality. (M)

Humanities & Social Science Sector. Class of 2010 & beyond. Love.

What makes men and women different? What is the nature of desire? This course introduces students to a long history of speculation about the meaning and nature of gender and sexuality -- a history fundamental to literary representation and the business of making meaning. We will consider theories from Aristophanes speech in Platos Symposium to recent feminist and queer theory. Authors treated might include: Plato, Shakespeare, J. S. Mill, Mary Wollstonecraft, Sigmund Freud, Virginia Woolf, Simone de Beauvoir, Adrienne Rich, Audre Lorde, Michel Foucault, Gayle Rubin, Catherine MacKinnon, Eve Kosofsky Sedgwick, Judith Butler, bell hooks, Leo Bersani, Gloria Anzaldua, David Halperin, Cherr©e Moraga, Donna Haraway, Gayatri Spivak, Diana Fuss, Rosemary Hennessy, Chandra Tadpole Mohanty, and Susan Stryker.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 100. (COML107, ITAL100) Topics Freshman Seminar. (M) Staff.

Topics Vary. When topics include Gender, Sexuality and Women's Studies the course will be cross-listed with GSW-100.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

L/R 101. (CIMS100, COML117, ENGL101) Study of an Author. (C)

Arts & Letters Sector. All Classes. Staff.

This is an introduction to literary study through the works of a single author--often Shakespeare, but some versions of this course will feature other writers. (For offerings in a given semester, please see the on-line course descriptions on the English Department website.) We will read several works and approach them--both in discussion and in writing--from a range of critical perspectives. The author's relation to his or her time, to literary history generally, and to the problems of performance, are likely to be emphasized. This course is designed for the General Requirement; it is also intended to serve as a first or second course for prospective English majors.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

109. (FOLK029, RELS005) Women and Religion. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

This course looks at the contrast between the model of the virtuous woman, and the instructive power of the uncontrollable woman, from 1800 to the present in Hinduism, Christianity, and Islam. Drawing examples from a variety of historical contexts and traditions, this course will touch on issues of religious empowerment, piety, leadership, and theoretical questions involving gender, spirituality, the body, and the intersection of class status and religious performance.

SM 113. (JWST113, RELS113) Major Western Religious Thinkers. (M)

Staff. This course is crosslisted with RELS 113, a topics course when the subject matter is appropriate to Women's Studies. See current timetable.

Introduction to the writings of one or two significant western religious thinkers, designed for those who have no background in religious thought. Possible thinkers to be studied: Augustine, Maimonides, Spinoza, Luther, Teresa of Avila, Edwards, Mendelssohn, Kierkegaard, DuBois, Bonhoeffer, King.

114. (AFRC112, SOCI112, URBS114) Discrimination: Sexual and Racial Conflict. (M) Society Sector. All classes. Madden.

This course is concerned with the structure, the causes and correlates, and the government policies to alleviate discrimination by race and gender in the United States. The central focus of the course is on employment differences by race and gender and the extent to which they arise from labor market discrimination versus other causes, although racial discrimination in housing is also considered. After a comprehensive overview of the structures of labor and housing markets and of nondiscriminatory reasons (that is, the cumulative effects of past discrimination and/or experiences) for the existence of group differentials in employment, wages and residential locations, various theories of the sources of current discrimination are reviewed and evaluated. Actual government policies and alternatives policies are evaluated in light of both the empirical evidence on group differences and the alternative theories of discrimination.

117. (SOCI117) Sociology of Work. (M) Jacobs, Leidner.

The material world is shaped and maintained through work, but so is the

social world. How work is organized, allocated, and rewarded determines the opportunities people have for developing their own capacities, the kinds of ties they will have with others, and how much control they will have over their own lives. We will consider various sociological perspectives on work and compare alternative ways of organizing work, with a focus on the contemporary United States.

SM 118. (CIMS118, COML118, GSWS418, NELC118) Iranian Cinema: Gender, Politics and Religion. (M) Minuchehr.

Post-Revolutionary Iranian cinema has gained exceptional international reception in the past two decades. In most major national and international festivals, Iranian films have taken numerous prizes for their outstanding representation of life and society, and their courage in defying censorship barriers. In this course, we will examine the distinct characteristics of the post-revolutionary Iranian cinema. Discussion will revolve around themes such as gender politics, family relationships and women's social, economic and political roles, as well as the levels of representation and criticism of modern Iran's political and religious structure within the current boundaries. There will be a total of 12 films shown and will include works by Kiarostami, Makhmalbaf, Beizai, Milani, Bani-Etemad and Panahi, among others.

122. (SOCL122) The Sociology of Gender. (C) Society Sector. All classes. Leidner.

Gender is an organizing principle of society, shaping social structures, cultural understandings, processes of interaction, and identities in ways that have profound consequences. It affects every aspect of people's lives, from their intimate relationships to their participation in work, family, government, and other social institutions and their place in the stratification system. Yet gender is such a taken for granted basis for differences among people that it can be hard to see the underlying social structures and cultural forces that reinforce or weaken the social boundaries that define gender. Differences in behavior, power, and experience are often seen as the result of biological imperatives or of individual choice. A sociological view of gender, in contrast, emphasizes how gender is socially constructed and how structural constraints limit choice. This course examines how differences based on gender are created and sustained, with particular attention to how other important bases of personal identity and social inequality--race and class-interact with

patterns of gender relations. We will also seek to understand how social change happens and how gender inequality might be reduced.

SM 125. (CIMS125, COML127, RUSS125) The Adultery Novel. (C) Arts & Letters Sector. All Classes. Staff. All readings and lectures in English.

The object of this course is to analyze narratives of adultery from Shakespeare to the present and to develop a vocabulary for thinking critically about the literary conventions and social values that inform them. Many of the themes (of desire, transgression, suspicion, discovery) at the heart of these stories also lie at the core of many modern narratives. Is there anything special, we will ask, about the case of adultery--once called "a crime which contains within itself all others"? What might these stories teach us about the way we read in general? By supplementing classic literary accounts by Shakespeare, Pushkin, Flaubert, Chekhov, and Proust with films and with critical analyses, we will analyze the possibilities and limitations of the different genres and forms under discussion, including novels, films, short stories, and theatre. What can these forms show us (or not show us) about desire, gender, family and social obligation? Through supplementary readings and class discussions, we will apply a range of critical approaches to place these narratives of adultery in a social and literary context, including formal analyses of narrative and style, feminist criticism, Marxist and psychoanalytic understandings of desire and family.

SM 149. Law and Social Policy on Sexuality and Reproduction. (C) Tracy.

This course will examine how statutory law, court decisions and other forms of social policy encourage or discourage various forms of sexuality, reproduction and parenting. Such issues as contraception, abortion, gay and lesbian rights, reproductive technology, family violence, and welfare and family policies will be covered.

162. (GRMN262, JWST102, NELC154) Women in Jewish Literature. (C) Arts & Letters Sector. All Classes. Hellerstein.

This course introduces students of literature, women's studies, and Jewish studies to the long tradition of women as readers, writers, and subjects in Jewish literature. All texts will be in translation from Yiddish and Hebrew, or in English. Through a variety of genres--devotional

literature, memoir, fiction, and poetry -- we will study women's roles and selves, the relation of women and men, and the interaction between Jewish texts and women's lives. The legacy of women in Yiddish devotional literature will serve as background for our reading of modern Jewish fiction & poetry from the past century. The course is divided into five segments. The first presents a case study of the Matriarchs Rachel and Leah, as they are portrayed in the Hebrew Bible, in rabbinic commentary, in pre-modern prayers, and in modern poems. We then examine a modern novel that recasts the story of Dinah, Leah's daughter. Next we turn to the seventeenth century Glikl of Hamel, the first Jewish woman memoirist. The third segment focuses on devotional literature for and by women. In the fourth segment, we read modern women poets in Yiddish, Hebrew, and English. The course concludes with a fifth segment on fiction and a memoir written by women in Yiddish, Hebrew, and English.

182. (STSC182) Social Science and American Culture. (A) Staff.

This course examines the role of social science in the United States during the 20th century. There have been popular social scientific theories since the early 19th century, when the craze spread for interpreting individuals' character by feeling the bumps on their heads. But popular social science is really a 20th century phenomenon. And popular culture influenced academic research. Our coverage cannot be comprehensive. We have insufficient time to treat all human sciences equally. For example, there is enormous popular interest in paleoanthropology and archaeology, but we will not discuss these in class--although you might choose to write your research paper for the course on a specific aspect of one of these disciplines.

186. (EALC166, EALC566, GSWS586) Gender and Sexuality in Japan. (M) Kano.

This seminar deals with issues which such as the cultural and historical constructions of femininity and masculinity; gendered division of education and labor; representation of gender and sexuality in literature, theater, and popular culture; and forms of activism for the rights of women and sexual minorities. This course will use films, videos, and manga, as well as readings from anthropological, historical, literary, and theoretical texts. All readings will be in English, but Japanese materials will be available to those interested.

187. (COML187, EALC017)**Possessing Women. (M)** Chance, L.

A man from Tennessee writes "Memoirs of a Geisha." A Japanese novelist tells the story of the "comfort women" who served the Japanese army. A tenth century courtier poses as woman writing the first woman's diary. Poets from Byron to Robert Lowell, through Ezra Pound to Li Po, have written as though, they were women, decrying their painful situations. Is something wrong with this picture, or is "woman" such a fascinating position from which to speak that writers can hardly help trying it on for size? In this course we will look at male literary impersonators of women, as well as women writers. Our questions will include who speaks in literature for prostitutes--whose bodies are in some sense the property of men--and what happens when women inhabit the bodies of other women via spirit possession. Readings will draw on the Japanese tradition, which is especially rich in such cases, and will also include Western and Chinese literature, anthropological work on possession, legal treatments of prostitution, and film. Participants will keep a reading journal and write a paper of their own choosing.

199. Independent Study. (C)**SM 203. (HIST203, HSOC204) Major Seminar in History: America Before 1800. (M)** Staff.

This course is for history majors. This course will be cross-listed with GSWS when the course topic includes women, gender, and sexuality.

SM 204. (HIST204) Major Seminar in History: America After 1800. (C) Staff.

This is a topics course in history. When the course content covers topics on women, gender and sexuality it will be cross-listed with GSWS.

L/R 213. (CIMS215, GSWS513, SAST213, SAST513) Indian Cinema and Society: Bollywood and Beyond. (B) Staff.

This course examines the history and practices of Indian popular cinema from the early 20th century to the present. Focusing on recent commercial Hindi cinema, we will learn how to interpret conventions such as song and dance sequences, melodrama and spectacle. Examining films as objects through which culture and society are made visible, students will watch films critically for their social, aesthetic and historical significance in Indian society. We will consider the particular commercial and industrial structures and practices

surrounding Indian cinema, exploring the ways in which it is produced, circulated, and avidly consumed. We will examine the ways the Indian cinema accounts for nationality, religion, migration, and gender, and consider themes such as the use and creation of public space, spectatorship and visuality. This course will enable students to think critically about how cinema reflects, reforms and re-imagines the culture and society that creates it.

SM 221. (COML222, ENGL222) Topics in Romance. (A) Staff.

This seminar explores an aspect of epic or romance intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

222. (AFRC222, AFST221) African Women's Lives: Past and Present. (A) Blakely.

Restoring women to African history is a worthy goal, but easier said than done. The course examines scholarship over the past forty years that brings to light previously overlooked contributions African women have made to political struggle, religious change, culture preservation, and economic development from pre-colonial times to present. The course addresses basic questions about changing women's roles and human rights controversies associated with African women within the wider cultural and historical contexts in which their lives are lived. It also raises fundamental questions about sources, methodology, and representation, including the value of African women's oral and written narrative and cinema production as avenues to insider perspectives on African women's lives.

SM 223. (COML354, ENGL221) Topics in Medieval Literature. (M) Staff.

This seminar explores an aspect of medieval literature intensively; specific course topics will vary from year to year. Topics in the past have included the medieval performance, medieval women, and medieval law and literature. The course will be cross-listed with GSWS when the subject matter includes gender, women, and sexuality.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 234. (EALC230, EALC630, GSWS630) Gender and Religion in China. (M) Cheng, H.

This course examines gender in Chinese religious culture from ancient to

contemporary times. We will explore topics including the Buddhist accommodation of Chinese family system, Chinese transformation of the bodhisattva Guanyin, female deities in Daoist and popular religious pantheons, writings about religious women, female ghosts and fox spirits in literary imagination and folk tales, and the significance of yin force in Chinese medicine and Daoist alchemy. Through the case of China, we will look at how gender plays critical and constitutive roles in religious traditions, and how religion can be used both to reinforce and to challenge gender norms.

235. (EDUC235) Psychology of Women. (C) Staff.

Critical analyses of the psychological theories of female development, and introduction to feminist scholarship on gender development and sexuality.

SM 241. (ASAM241, COML239, ENGL241) Topics in Eighteenth Century British Literature. (M) Staff.

Space will be reserved for English majors. This is a topics course. If the topic is appropriate, the course is cross-listed with ENGL 241. This course explores an aspect of 18th-century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 245. (ENGL245) Topics In The 18th-Century Novel. (M) Staff.

The primary for this course is the English Department. When the course content includes gender, sexuality and women's studies it will be cross-listed with GSWS. See additional information and description on the English Department's website: <https://www.english.upenn.edu>

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 249. (EDUC576, PHIL249) Philosophy of Education. (M) Detlefsen.**SM 250. (CIMS251, COML249, ENGL251) Topics in 19th Century Literature. (M)** Staff.

This course explores an aspect of 19th-century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

L/R 252. (COML253, ENGL105, GRMN253, HSOC253, STSC253) Freud: The Invention of Psychoanalysis. (M)

Humanities & Social Science Sector. Class of 2010 & beyond. Weissberg. All readings and lectures in English.

No other person of the twentieth century has probably influenced scientific thought, humanistic scholarship, medical therapy, and popular culture as much as Sigmund Freud. This course will study his work, its cultural background, and its impact on us today.

In the first part of the course, we will learn about Freud's life and the Viennese culture of his time. We will then move to a discussion of seminal texts, such as excerpts from his Interpretation of Dreams, case studies, as well as essays on psychoanalytic practice, human development, definitions of gender and sex, neuroses, and culture in general. In the final part of the course, we will discuss the impact of Freud's work. Guest lecturers from the medical field, history of science, psychology, and the humanities will offer insights into the reception of Freud's work, and its consequences for various fields of study and therapy.

SM 255. (COML261, ENGL255, GSWS654) Topics in the 19th-Century Novel. (M) Staff.

This course explores an aspect of the 19th-century novel intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

257. (CIMS222, COML256, EALC151, EALC551) Contemporary Fiction & Film in Japan. (M) Kano.

This course will explore fiction and film in contemporary Japan, from 1945 to the present. Topics will include literary and cinematic representation of Japan's war experience and post-war reconstruction, negotiation with Japanese classics, confrontation with the state, and changing ideas of gender and sexuality. We will explore these and other questions by analyzing texts of various genres, including film and film scripts, novels, short stories, magazines, and academic essays. Class sessions will combine lectures, discussion, audio-visual materials, and creative as well as analytical writing exercises. The course is taught in English, although Japanese materials will be made available upon request. No prior coursework in Japanese literature, culture, or film is required or expected; additional secondary materials will be available for students taking the

course at the 600 level. Writers and film directors examined may include: Kawabata Yasunari, Hayashi Fumiko, Abe Kobo, Mishima Yukio, Oe Kenzaburo, Yoshimoto Banana, Ozu Yasujiro, Naruse Mikio, Kurosawa Akira, Imamura Shohei, Koreeda Hirokazu, and Beat Takeshi.

SM 260. (AFRC262, AFST260, COML262, ENGL260, LALS260) Topics in The Novel. (M) Staff.

This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

265. (ANTH265) Sex and Reproduction in Humans: A Biocultural Approach. (A) Vallengia. Prerequisite(s): ANTH 003.

An exploration of human reproduction from an evolutionary and biosocial perspective. Focuses on physiological, ecological, and social aspects of human reproduction with a life cycle approach. Also explores human reproductive strategies in a variety of cultural settings. Topics include cognitive and behavioural differences between men and women and male and female reproductive strategies. Examples are drawn primarily from traditional and modern human societies; data from studies of non-human primates are also considered.

SM 266. (COML263, ENGL261) Topics in 20th C. Literature. (C) Staff.

The course explores an aspect of 20th-century literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

270. (FOLK270) Folklore and Sexuality. (M) Azzolina.

Sexuality is not only a biological act or fact, it also has a creative and aesthetic element. This course examines the folklore elements of sexuality and includes historical readings such as the Bible and the Decameron as well as a contemporary look at topics such as body art and clothing choice. A field-based paper will be required and a final examination will be given on class discussions and readings.

SM 279. (THAR279) Women in Theatre and Performance. (M) Malague.

Theatre began as a form that excluded women entirely. The plays of ancient

Greece and Elizabethan England were written and performed only by men, beginning a long tradition of theatre that represented women only from male perspectives. Has that tradition been so dominant for so long that women's voices on stage are still a novelty? This course focuses on a wide range of plays and performances by and about women; the work we read (and view) will evidence artistic attempts to represent women's lives, experiences and perspectives on the stage. Among the issues encountered and examined in these works are the roles of love, sexuality, friendship, career, community, marriage, motherhood, family, and feminism in women's lives - as well as the economic and political position(s) of women in society. The course will also offer contextual background on feminist theatre history, theory, and literature, the diverse (and divergent) creative efforts of female artists to use live performance as a means of creating social and political change.

280. (PSCI280) Feminist Political Thought. (M) Society Sector. All classes. Hirschmann.

This course is designed to provide an overview of the variety of ideas, approaches, and subfields within feminist political thought. Readings and divided into three sections: contemporary theorizing about the meaning of "feminism"; women in the history of Western political thought; and feminist theoretical approaches to practical political problems and issues, such as abortion and sexual assault.

SM 282. (SAST282) Globalization in a Gender Perspective. (M) Staff.

This interdisciplinary seminar will explore theories and practices of globalization. The process of globalization raises many questions that scholars are attempting to answer. What are its historical roots? Why has it seen such rapid growth? Is globalization predominantly an economic, cultural or ideological issue? Has it affected women and men equally? The seminar will consider present discussions on globalization, provide tools to analyze this concept critically, and introduce examples taken from the Third World, Europe, and the United States. Students will be expected to write several short papers and take an active part in class discussions. The final exam will consist of an extended essay on topics dealt with in class.

SM 284. (AFRC263, ENGL253) Topics in American Literature. (M) Staff.

This course explores an aspect of 19th-century American literature intensively; specific course topics will vary from year to year. When the course content includes gender, sexuality and/or women's studies the course will be cross-listed with GSWS.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 287. (AFRC287, CIMS286) Topics in Africana Studies. (C) Staff.

This course will be cross-listed with GSWS when the content includes gender, sexuality, and women's studies.

See the Africana Studies Program's website at www.sas.upenn.edu/africana for a description of the current offerings.

SM 290. (AFRC290, ENGL290) Topics In Gender, Sexuality, and Literature. (C) Staff.

This course is not open to freshman.

The primary for this course is the English Department. When the course content includes gender, sexuality and women's studies it will be cross-listed with GSWS. See additional information and description on the English Department's website: <https://www.english.upenn.edu>

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 310. (COML310, ITAL310) The Medieval Reader. (M) Staff. All Readings and Lecture in English.

Through a range of authors including Augustine, Dante, Petrarch, Galileo, and Umberto Eco, this course will explore the world of the book in the manuscript era. We will consider 1)readers in fiction-male and female, good and bad; 2)books as material objects produced in monasteries and their subsequent role in the rise of the universities; 3)medieval women readers and writers; 4)medieval ideas of the book as a symbol (e.g., the notion of the world as God's book; 5)changes in book culture brought about by printing and electronic media. Lectures with discussion in English, to be supplemented by slide presentations and a field trip to the Rare Book Room in Van Pelt Library. No prerequisites. Readings available either in Italian or English. Satisfies General Requirement in Arts and Letters.

SM 318. (HSOC341, NURS318) Race, Gender, Class and the History of American Health Care. (C) Fairman.

This multidisciplinary course surveys the history of American health care through the

multiple perspectives of race, gender, and class, and grounds the discussions in contemporary health issues. It emphasizes the links between the past and present, using not only primary documents but materials from disciplines such as literature, art, sociology, and feminist studies that relate both closely and tangentially to the health professions and health care issues. Discussions will surround gender, class-based, ethnic, and racial ideas about the construction of disease, health and illness; the development of health care institutions; the interplay between religion and science; the experiences of patients and providers; and the response to disasters and epidemics.

SM 320. Contemporary Feminist Thought. (A) Kurz. Prerequisite(s): One prior gender, sexuality and women's studies course.

This course covers a broad range of feminist writers, from the pioneer thinkers of the 18th century to current feminists who focus on globalization. After examining how and why feminist thought developed, we will explore how different feminist perspectives explain gender inequality both in the US and in contemporary global contexts. Readings will also focus on how gender issues interact with race, ethnicity, sexuality, and social class. We will also focus on how feminist theory informs current social movements for gender equality.

SM 324. (HSOC324, NURS324) Children's Health in the United States, 1800-2000. (C) Connolly. For Benjamin Franklin Scholars & Nursing Honors Students.

This course explores the impact of historical ideas, events, and actors pertaining to the history of children's health care in the United States. Emphasis is placed on tracing the origins and evolution of issues that have salience for twenty-first century children's health care policy and the delivery of care.

SM 330. (FREN330) Gender and Science. (M) Lindee.

This course explores the gendered nature of science as social endeavor, intellectual construct and political resource. We consider the rise of gentlemanly science, masculinity and the arms race, the notion of a "Successor science" grounded in feminist theory, and the historical role of gender in defining who can do science and what counts as scientific data. We also explore how science has interpreted male-female differences. Our goal is to understand the profound impact of social place in the

history of science, and thereby to understand the social nature of scientific knowledge.

SM 338. (HSOC338, NURS338) "Sweet Little Old Ladies and Sandwiched Daughters": Social Images and Issues in our Aging Society. (B) Kagan.

This course is an intensive and focused introduction to social gerontology as a trans-disciplinary lens through which to examine aspects of social structure, actions, and consequences in an aging society. A variety of sources are employed to introduce students from any field focused on human behavior and interaction to classical notions of social gerontology and current scholarly inquiry in gerontology. Field work in the tradition of thick description creates a mechanism to engage students in newly gerontological understandings of their life worlds and daily interactions. Weekly field work, observing aspects of age and representations of aging and being old in every day experiences forms, is juxtaposed against close critical readings of classical works in social gerontology and current research literature as well as viewings of film and readings of popular literature as the basis for student analysis. Student participation in the seminar demands careful scrutiny and critical synthesis of disparate intellectual, cultural, and social perspectives using readings and field work and creation of oral and written arguments that extend understandings of the issues at hand in new and substantive ways. Emphasis is placed on analysis of field work and literature through a series of media reports and a final term paper.

SM 341. (ENGL341) Topics in 18th Century Literature. (M) staff. Benjamin Franklin Seminar.

This course explores an aspect of 18th-century British literature intensively; specific course topics will vary from year to year. This is an English course when the course topic includes gender, sexuality and women's studies it will be cross-listed with GSWS.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

344. (EDUC345) Psychology of Personal Growth. (C) Staff.

Intellectual, emotional and behavioral development in the college years. Illustrative topics: developing intellectual and social competence; developing personal and career goals; managing interpersonal relationships; values and

behavior. Recommended for submatriculation in Psychological Services Master's Degree program.

L/R 349. (HIST349) History of Sexuality in the U.S. (C) Peiss.

This course introduces students to a relatively new field of inquiry, the history of sexuality in the U.S. It explores the past to consider why sexuality has been so central to American identities, culture, and politics. Primary documents and other readings focus on the history of sexual ideology and regulation; popular culture and changing sexual practices; the emergence of distinct sexual identity and communities; the politics of sexuality; and the relationship between sexual and other forms of social difference, such as gender, race, ethnicity, age, and class. Topics include many themes with continuing relevance to contemporary public debate: among them, sexual representation and censorship, sexual violence, adolescent sexuality, the politics of reproduction, gay and lesbian sexualities and sexually transmitted diseases.

SM 350. (COML350) Theory of Literature. (M) Staff.

This course includes both a general survey of classic writings in Western aesthetics as well as readings on the major trends in literary criticism in the twentieth century. A recurring theme will be the literary canon and how it reflects or influences values and interpretative strategies. Among the topics covered are feminist literary criticism, structuralism and poststructuralism, Marxist criticism, and psychological criticism. Authors include Plato, Aristotle, Hume, Kant, Hegel, T.S. Eliot, Bakhtin, Sontag, Barthes, Foucault, Derrida, Virginia Woolf, de Beauvoir, Showalter, Cixous, Gilbert and Guber, Kolodny, Marx, Benjamin, and Freud.

SM 360. (FREN360) French Literature of the 18th Century. (M) Staff.

Throughout the 18th Century, the novel was consistently chosen by the philosophes as a forum in which to present political ideas to a broad audience. French novels of the Enlightenment are therefore often hybrid works in which fictional plots, even love stories, co-exist with philosophical dialogue and with more or less fictionalized discussions of recent political events or debates. We will read novels by all the major intellectual figures of the 18th century -- for example, Montesquieu's "Lettres Persanes," "Contes" by Voltaire, Diderot's "Le Neveu De Rameau"-- in order to examine the controversial subject matter they chose to explore in a fictional format

and to analyze the effects on novelistic structure of this invasion of the political. We will also read works, most notably Laclos' "Les Liaisons Dangereuses," that today are generally thought to reflect the socio-political climate of the decades that prepared the French Revolution of 1789. In all our discussion, we will be asking ourselves why and how, for the only time in the history of the genre, the novel could have been, in large part and for most of the century, partially diverted from fictional concerns and chosen as a political vehicle.

SM 390. (ENGL390) Topics in Gender, Sexuality and Literature. (M) Staff. Benjamin Franklin Seminar.

The advanced women's studies course in the English department, focusing on a particular aspect of literature by and about women. Topics might include: "Victorian Literary Women"; "Women, Politics, and Literature"; "Feminist Literary Theory"; and similar foci.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 400. Senior Seminar. (E) Kurz.

This course is for senior undergraduate Women's Studies majors who will be completing their thesis. The seminar helps students decide on the most appropriate methodologies to use and topics to include in their thesis. Other topics include thesis organization and drawing conclusions from primary and secondary sources of data.

SM 414. Family Ties: Function and Ideology. (M) Rabberman.

Families serve as the basic building blocks of societies. Besides helping to distribute economic resources within a society, families reflect societies' values, norms, tensions and power dynamics through their structure. Furthermore, changes in the family's values, functions and structures mirror changes in women's roles and experiences, both inside and outside the home. Finally, families also serve as the repository for memories from generation to generation.

In this course, we will explore some central debates and issues in the history of the family by focusing on case studies from England, France, Germany, and the United States from the medieval through the modern periods. How are families created and dissolved over time, and how did changes in these practices come about? How did people make the decision to get married, and how important were affective ties and material considerations in this process? How did past societies treat their children, and did love for children increase

over time? Which people, inside and outside families, exerted power over family members? How did political and economic developments influence families' structure, function, and ideology? What do the changing structure and purpose of families in the West tell us about changes in the role of the individual and the relationship between public and private in the West? What do recent family histories tell us about the relationship between the past and the present, between individuals and ancestors, at the end of the twentieth century?

Class requirements will include participation in class discussion, in-class presentations, two short papers, and a 15-20 page paper based on primary sources. Class readings will draw on works from women's studies, historical anthropology, social history, legal history, material culture, sociology, and literature, and will include both primary and secondary sources.

420. Witchcraft and Gender in the Early Modern World. (M) Rabberman. Master in Liberal Arts course.

From the 15th century through the 18th century, social tensions erupted in Europe and the colonies in the witch craze, a period when intense cultural concern over witchcraft was expressed through religious treatises and sermons, popular literature like pamphlets and broadsides, legal accusations, trials, and, in some cases, executions. Although scholars argue vehemently about the total number of people executed during the witch-hunts, their importance in understanding early modern beliefs and responses to social tensions is clear. In this class, we will explore historians' understandings of the causes underlying this cultural phenomenon. With special attention to gender, social position, and religious belief, we will join academic debates about the causes of these persecutions. We will also read some primary sources from the medieval through the early modern periods, including trial transcripts, sermons, and pamphlets. Were women the main target of witchcraft accusations and executions, and if so, was misogyny their most important cause? What role did sexual norms and beliefs have in the way that accusations were framed? Were there different patterns of accusation and executions across time and region, and if so, what social and cultural factors might explain them?

422. History of Sexuality. (B) Rabberman. Master in Liberal Arts course.

In this course, rather than simply debating changes in sexual practices over time, we

will discuss the ways in which different societies in the past and present constructed sexual norms and understood normality and deviance in sexual terms. We will focus special attention on the following questions: To what extent are sexual identities constructed by different cultures, rather than simply being determined biologically? What influence do social, economic, and political conditions have on social constructions of sexuality? How have different societies used sexual norms to mark "natural" practices from "deviant" ones, and how are these norms connected to societies' power structures? We will explore case studies from Classical Greece through the contemporary United States. Our readings will explore topics such as medieval and modern views of the body, gender, sexuality, and science; prostitutes in medieval and Victorian England; same-sex relationships from classical Greece to medieval Europe to the contemporary United States; expectations for sexuality within and outside marriage; hermaphrodites; and sexual deviants, among others.

Students will be expected to participate actively in class discussions, and to complete short response papers and a longer research paper.

SM 430. (CIMS492, COMM430) Lesbian, Gay, Bisexual, and Transgender Representation. (A) Staff. Prerequisite(s): COMM 123 or SOCI 137/FOLK 137 or Permission from the Instructor.

This class investigates the history of LGBT representation in a range of popular media since the 1960s - in film, television, music, pornography, the internet, video games, and so on. We will consider ongoing debates about queer images, including stereotypes, camp, and the value of limits of "positive images." The class includes a strong emphasis on independent research: students will learn how to develop and carry out an original qualitative research project throughout the semester.

SM 432. Family Dramas, Family Players. (M) Burnham.

Though families have been the subject of literary scrutiny at least since Oedipus Rex, Eugene O'Neill's magisterial *Long Day's Journey Into Night* was arguably the first American work to look unflinchingly at the darker side of family life. In this course, we will read twentieth century novels, plays, stories, and poems (as well as some nonliterary theoretical works on gender) that show the family as a whole, albeit a fragmented whole. We will read

stories by the Irish writers William Trevor and Edna O'Brien who show marriage in various stages of decay, as well as two short novels by the American Jane Smiley whose family survives their crises. We'll look at the relationship of neighborhood and family through stories by the African-American writers John Edgar Wideman and Toni Cade Bambara. Arthur Miller's "Death of a Salesman" and poems from *Life Studies* by Robert Lowell will let us examine family through the lens of America's obsession with success. Finally, we'll look at families with traditional homes, through Barbara Kingsolver's "The Bean Trees" and Marilynne Robinson's "Housekeeping." Several of the works on the list have been made into excellent films, and we will watch at least two. Brief weekly response papers will encourage all to participate in discussion. There will be a final comparative paper, and no exam.

SM 447. (ANTH447) Human Reproductive Ecology. (J) Valeggia. Prerequisite(s): ANTH 003 and either ANTH 143, 105, or 106.

A seminar-style graduate and advanced undergraduate course designed to provide an overview of the latest advances in human reproductive ecology and the mechanics of writing a proposal. We will discuss readings and exchange ideas on the different directions that this relatively new discipline may take. As a way of reviewing the material and train ourselves to present our ideas to a funding agency, we will write individual research proposals.

499. Independent Study. (C)

SM 503. HYST/PATHO OF THE FEM. (M) Adley. Master in Liberal Arts course.

This seminar traces hysteria as a uniquely female malady from Hippocrates, to nineteenth century France and Jean-Martin Charcot, from Sigmund Freud in Vienna 1900, to French feminist reflections on hysteria in the 1970s, such as Luce Irigaray's "La Mysterique," up until more recent reimaginings of the figure, ending with a consideration of what today's hysteria looks like and the women who are "afflicted." Through hysteria, we will consider the ways in which illness has been feminized and women have been pathologized not only in the past, but in the 21st century. Furthermore, we will consider the sick feminine beyond gender binaries and consider how that which is sick is feminine -- weak, inferior, passive -- even when not biologically female. The course will draw from a variety of texts (literary, historical, scientific, and psychological), film, and recent media (from

newspapers and magazines to blogs, twitter, Facebook, etc.).

513. (CIMS215, GSWS213, SAST213, SAST513) Indian Cinema & Society. (B) Staff.

This course will meet for three hours to view and discuss a variety of films/videos in Hindi, Tamil, Bengali, Urdu (with English subtitles), and English, which bring up issues of social, political, and cultural significance. Readings for the course will include articles in various fields ranging from film studies and communication to sociolinguistics and women's studies. Discussions will focus on cinema as a means of expression and as an instrument for social change, examining the various ways in which films both reflect and influence contemporary culture.

SM 516. (AFST516, ANTH516, URBS516) Public Interest Workshop. (M) Staff.

This is a Public Interest Ethnography workshop (originally created by Peggy Reeves Sanday - Department of Anthropology) that incorporates an interdisciplinary approach to exploring social issues. Open to graduate and advanced undergraduate students, the workshop is a response to Amy Gutmann's call for interdisciplinary cooperation across the University and to the Department of Anthropology's commitment to developing public interest research and practice as a disciplinary theme. Rooted in the rubric of public interest social science, the course focuses on: 1) merging problem solving with theory and analysis in the interest of change motivated by a commitment to social justice, racial harmony, equality, and human rights; and 2) engaging in public debate on human issues to make research results accessible to a broader audience. The workshop brings in guest speakers and will incorporate original ethnographic research to merge theory with action. Students are encouraged to apply the framing model to a public interest research and action topic of their choice. This is an academically-based-community-service (ABCS) course that partners directly with Penn's Netter Center Community Partnerships.

518. (NURS518) Nursing, Health and Illness in the U.S., 1860-1985. (B) Wall.

This course examines changing ideas about the nature of health and illness; changing forms of health care delivery; changing experiences of women as providers and patients; changing role expectations and realities for nurses; changing midwifery

practice; and changing segmentation of the health care labor market by gender, class and race. It takes a gender perspective on all topics considered in the course. A comparative approach is used as national and international literature is considered. This focus is presented as one way of understanding the complex interrelationships among gender, class, and race in health care systems of the United States and countries abroad.

SM 528. (HSSC528) Gender and Science. (M) Lindee.

With a special focus on methods, this course explores the rich literature on gender and technical knowledge.

SM 532. (DEMG541, SOCI541) Gender, the Labor Force and Labor Markets. (M) Madden.

Drawing from sociology, economics and demography, this course examines the causes and effects of gender differences in labor force participation, earnings and occupation in the United States and in the rest of the developed and developing world. Differences by race and ethnicity are also considered. Theories of labor supply, marriage, human capital and discrimination are explored as explanations for the observed trends. Finally, the course reviews current labor market policies and uses theories of labor supply, marriage, human capital and discrimination to evaluate their effects on women and men.

SM 537. (COML521, ITAL537) Boccaccio. (M) Kirkham.

Boccaccio's life and work in the context of Italian and European culture and society.

SM 542. (SOCI542) Work and Gender. (M) Leidner.

This seminar examines the relevance of gender to the organization and experience of paid and unpaid work. Combining materialist and social constructionist approaches, we will consider occupational segregation, the relation of work and family, gender and class solidarity, the construction of gender through work, race and class variation in work experiences, and related topics.

SM 546. (SOCI546) Feminist Theory. (M) Leidner.

Feminist activists and academics have posed fundamental challenges to existing approaches to social theory. This seminar explores the development of feminist theory since the 1960s, focusing on approaches that have the most relevance for social science. The relations among

feminist theorizing, research, and activism will be emphasized.

SM 553. (COML554, ENGL553, HIST553) British Women Writers. (M) Bowers.

A study of British women writers, often focusing on the women authors who came into prominence between 1775 and 1825.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

555. (NURS555) Women and Incarceration. (A) Brown, K.; Guidera; Durain.

This elective course will afford students the opportunity to participate in service learning and health education in the Philadelphia prison system, in particular to incarcerated women. Students will explore the social and historical framework and trends in the incarceration of women and the health status of incarcerated women. During seminar discussions with experts in the criminal justice system and with staff and inmates at Riverside, the Philadelphia women's jail, students will explore the health, health care and health care needs of incarcerated women and identify specific areas in need of attention, especially with regard to health education. In collaboration with Philadelphia jail staff and female inmates, students will design and implement a health education project.

SM 556. (CIMS556, COML557, ENGL556) Topics in Nineteenth Century Literature. (M) Staff.

This course covers topics in nineteenth-century British Literature, its specific emphasis varying with the instructor.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 566. (COML566, ENGL566) Topics in Literature and the Law. (M) Staff.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 569. (AFRC569, COML569, ENGL569) Topics in American Literature. (M) Staff.

This is a topics course where the primary is English. When the topic is Gay/Lesbian/Queer Studies and 19th Century American Literature or African American and Chicana Feminism, this course will be cross listed with women's studies.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

572. (EDUC572) Language and Gender. (B) Pomerantz.

A critical investigation of the relationship between language, gender, and social structure which addresses the role of language in reflecting and perpetuating gender divisions. Students' ongoing discourse analytic projects are integral to our exploration of issues related to sexism in and through language. Implications for individual and social change are discussed.

588. (NURS588) The Politics of Women's Health Care. (B) Durain, McCool.

This course will utilize a multidisciplinary approach to address the field of women's health care. The constructs of women's health care will be examined from a clinical, as well as sociological, anthropological and political point of view. Topics will reflect the historical movement of women's health care from an obstetrical/gynecological view to one that encompasses the entire life span and life needs of women. The emphasis of the course will be to undertake a critical exploration of the diversity of women's health care needs and the past and current approaches to this care. Issues will be addressed from both a national and global perspective, with a particular focus on the relationship between women's equality/inequality status and state of health.

590. (EDUC590) Gender and Education (ELD). (B) Schultz; Kuriloff.

This course is designed to provide an overview of the major discussions and debates in the area of gender and education. While the intersections of gender, race, class, ethnicity, and sexuality are emphasized throughout this course, the focus of the research we will read is on gender and education in English-speaking countries. We will examine theoretical frameworks of gender and use these to read popular literature, examine teaching practices and teachers with respect to gender, using case studies to investigate the topics.

SM 594. (ARTH593, CIMS590, COML599) Topics in Contemporary Art. (M)

Topics vary. The primary for this course is the Art History Department. For a course description please see their website: <http://www.sas.upenn.edu/arhistory/courses>

599. Independent Study. (C) Staff.

SM 610. (COML610, HIST610) Topics in American History. (A) Staff.

Reading and discussion course on selected topics in American history.

612. (EDUC612) Interactional Processes with LGBT Individuals. (L) Wortman.

In the past quarter century, the awareness of the unique issues facing lesbian, gay, bisexual and transgender (LGBT) individuals has expanded and become essential knowledge in our work as educators, providers of psychological services, and other service provision fields. This course provides a contextual and applied understanding the interactional processes facing LGBT individuals.

SM 705. (AFST705, ANTH705, COML715, FOLK715, MUSC705) Seminar in Ethnomusicology. (A) Staff.

Topics in Ethnomusicology. *Imagining Africa Musically*: This seminar considers ways in which scholars write about and imagine the African continent through the lens of musical performance. We will consider a range of writings about Africa as a continent, regionally, and nationally, including north Africa and the Maghreb through series of themes including: diaspora, cosmopolitanism, gender, spirituality, and as world music. This is a reading and listening intensive seminar.

SM 735. (COML637, ENGL735) Shakespeare. (M) Staff.

An advanced seminar, usually focused on Shakespeare, treating the literature and culture of the late 16th- and early 17th-centuries.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 751. (ENGL751) British Women Poets. (M) Staff.

An advanced seminar in British poetry by women. This course has generally focused on the period from 1770-1830 when more than 300 women published at least one volume of poetry.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 769. (COML769, ENGL769, NELC783, SAST769) Feminist Theory. (M) Loombia.

Specific topic varies. Dissent is a key word in our world today--from the Arab Spring to the American Fall, we have seen expressions of political disobedience and protest around the world. It is more urgent than ever to consider what dissent might mean, what shapes it has taken historically, what connection might exist between it and literature, and what futures are possible. We will read key critical and theoretical work alongside some powerful, tender and controversial writings and films (largely but not exclusively produced in the postcolonial world), to inquire into the politics and poetics of governance and dissent. Students are invited to make connections with other historical and geographical contexts, and explore the different forms of dissent individual, collective, urban, rural, nationalist, pan-nationalist, religious, marxist, or feminist, to name but a few. We will pay special attention to different performances of dissent at a popular, mass or individual level. We will think about the social and cultural channels attention to different performances of dissent at a popular, mass or individual level.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 773. (AFRC773, ENGL773) Modernism. (M) Mahaffey.

An interdisciplinary and international examination of modernism, usually n to treating European as well as British and American modernists.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 778. (COML778) Twentieth-Century Aesthetics. (M) Steiner.

This course explores notions that have conditioned twentieth-century attitudes toward beauty: among them, ornament, form, fetish, and the artifact "women". The moves to twentieth-century fiction, art,

manifestos, theory, and such phenomena as beauty contests and art adjudications.

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 790. (COML790, ENGL790) Recent Issues in Critical Theory. (M) Staff.

The primary for this course is the English Department. When the course content includes gender, sexuality and women's studies it will be cross-listed with GSWS. See additional information and description on the English Department's website: <https://www.english.upenn.edu>

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

SM 806. (COMM806) Gender, Globalization and Media. (M) Staff.

This seminar creates a forum for debate over the ways in which the cultural politics of gender structure the historical, economic and social landscapes of media globalization Media culture, as the course readings seek to show, provides a fertile site to examine how globalized media practices articulate gendered imaginations. Adopting a transnational feminist perspective, the seminar specifically address between and among media technologies, representations, and institutions and the complex scripting of gendered meanings and subject positions in multiple locations in the global public sphere. Course topics include globalization and transnational and postcolonial feminist theories; gender, sexuality, and media; gender and labor in globalized media industries; femininity, consumerism, and global advertising; gender, global media, and morality; tourism, gender, and media economies; and gender, religion, and popular culture. For the major assignment, students will be expected to produce a research paper that focuses on one of the following: a critical review of a set of theories or a body of empirical work in a specific region; textual analysis of media with special attention to influences of globalization; political-economic analysis of media institutions and corporate practices.

**GENOMICS AND
COMPUTATIONAL
BIOLOGY
(MD) {GCB}**

**SM 493. (BIOL493) EPIGEN OF
HEALTH&DISEASE.**

**534. (PHRM534) Experimental
Genome Science.** C Brown, J Murray.
Prerequisite(s): Undergraduates and
Masters students need BIOL431 or
equivalent.

**L/L 535. (CIS 535, MTR 535)
Introduction to Bioinformatics. (B) B**
Voight. Prerequisite(s): The course will
assume a solid knowledge of modern
biology. An advanced undergraduate
course such as BIOL421 or a graduate
course in biology such as BIOL526
(Experimental Principles in Cell and
Molecular Biology), BIOL527 (Advanced
Molecular Biology and Genetics),
BIOL528 (Advanced Molecular Genetics),
BIOL540 (Genetic Systems, or equivalent,
is a prerequisite. Corequisite(s):
Registration for GCB 535-402 (Laboratory)
is required. All students are required to
bring a laptop to the lab sessions (Fridays).
TAs will provide help with the material, but
students should be computer-capable with
their own laptop, and should be
willing/capable to download and install free
software from the internet.
This course provides broad overview of
bioinformatics and computational biology

as applied to biomedical research. A
primary objective of this course is to enable
students to integrate modern bioinformatics
tools into their research activities. Course
material is aimed to address biological
questions using computational approaches
and the analysis of data. Areas include
DNA sequence alignment, genetic variation
and analysis, motif discovery, study design
for high-throughput sequencing, RNA and
gene expression, single gene and whole-
genome analysis, and topics in systems
biology. The relevant principles underlying
methods used for analysis in these areas
will be introduced and discussed at a level
appropriate for biologists without a
background in computer science.
However, a basic primer in programming
and operating in a UNIX environment will
be presented.

This course emphasizes direct, hands-
on experience with applications to current
biological research problems. The course
is not intended for computer science
students who want to learn about
biologically motivated algorithmic
problems; BIOL437/GCB 536 and
GCB/CIS/BIOL537 are more appropriate.

**536. (BIOL437) Computational
Biology. (M)**

An introductory computational biology
course designed for computational
scientists. The course will cover
fundamentals of algorithms, statistics, and
mathematics as applied to biological
problems. In particular, emphasis will be
given to biological problem modeling.
Students will be expected to learn the basic

algorithms underlying computational
biology, basic mathematical / statistical
proofs and molecular biology. Topics to be
covered are genome annotation and string
algorithms, pattern search and statistical
learning, molecular evolution and
phylogenetics and small molecule folding.

**SM 537. (BIOL537, CIS 635)
Advanced Computational Biology.
(B) Y Barash, L Wang. Prerequisite(s):
GCB536 or equivalent.**

**567. (BE 567) Modeling Biol
Systems.**

**585. (BMB 585) Wistar Inst Cancer
Biol.**

**SM 752. (CAMB752) Genomics. (B) S
Diskin.**

GERMANIC LANGUAGES (AS) {GRMN}

SM 262. (ARTH362) TOPICS IN NORTH BAROQUE. (M)

SM 023. (COML023) In Praise of the Small in Literature and the Arts. (M)

Weissberg. Freshman seminar. All readings and lectures in English. No knowledge of German is required.

We can memorize aphorisms and jokes, carry miniature portraits with us, and feel playful in handling small objects. This seminar will ask us to pay attention to smaller texts, art works, and objects that may easily be overlooked. In addition to reading brief texts and looking at images and objects, we will also read texts on the history and theory of short genres and the small.

SM 027. Euro Zone Crisis - The EU in a Currency War for Survival?. (M)

Shields, Susanne (Lauder Institute). Freshman seminar. All readings and lectures in English. No knowledge of German is required.

"Let me put it simply...there may be a contradiction between the interests of the financial world and the interests of the political world... We cannot keep constantly explaining to our voters and our citizens why the taxpayer should bear the cost of certain risks and not those people who have earned a lot of money from taking those risks." Angela Merkel, Chancellor of Germany, at the G20 Summit, November 2010.

In January 1999, a single monetary system united Germany, a core nation, with 10 other European states. Amidst the optimism of the euro's first days, most observers forecast that Europe would progress toward an ever closer union. Indeed, in the ensuing decade, the European Union became the world's largest trading area, the euro area expanded to include 17 member states, and the Lisbon Treaty enhanced the efficiency and democratic legitimacy of the Union.

150. (COML151, ENVS150) Water Worlds: Cultural Responses to Sea Level Rise & Catastrophic Flooding. (M) Arts & Letters Sector. All Classes. Richter, Simon.

As a result of climate change, the world that will take shape in the course of this century will be decidedly more inundated with water than we're accustomed to. The polar ice caps are melting, glaciers are retreating, ocean levels are rising, polar bear habitat is disappearing, countries are

jockeying for control over a new Arctic passage, while low-lying cities and small island nations are confronting the possibility of their own demise. Catastrophic flooding events are increasing in frequency, as are extreme droughts. Hurricane-related storm surges, tsunamis, and raging rivers have devastated regions on a local and global scale. In this seminar we will turn to the narratives and images that the human imagination has produced in response to the experience of overwhelming watery invasion, from Noah to New Orleans. Objects of analysis will include mythology, ancient and early modern diluvialism, literature, art, film, and commemorative practice. The basic question we'll be asking is: What can we learn from the humanities that will be helpful for confronting the problems and challenges caused by climate change and sea level rise?

155. Fascist Cinemas. (M) MacLeod.

Cinema played a crucial role in the cultural life of Nazi Germany and other fascist states. As cinema enthusiasts, Goebbels and Hitler were among the first to realize the important ideological potential of film as a mass medium and saw to it that Germany remained a cinema powerhouse producing more than 1000 films during the Nazi era. Mussolini, too, declared cinema "the strongest weapon." This course explores the world of Nazi cinema ranging from infamous propaganda pieces such as *The Triumph of the Will* and *The Eternal Jew* to entertainments by important directors as Douglas Sirk. While the main focus is Germany, the course explores the strange and mutually defining kinship between fascism more broadly and film. We will consider what elements mobilize and connect the film industries of the Axis Powers: style, genre, the aestheticization of politics, the creation of racialized others. More than seventy years later, fascist cinemas challenge us to grapple with issues of more subtle ideological insinuation than we might think. Weekly screenings with subtitles.

181. (ENVS181) Comparative Cultures of Sustainability. (L) Richter. Prerequisite(s): There are no prerequisites or language requirements. Summer abroad course.

Sustainability is more than science, engineering, policy, and design. Surveying the world, we see that the politics and practice of sustainability play out in different ways depending on cultural factors. Some cultures are more prone to pursue ecological goals than others. Why? Do the environmental history and

experience of a nation affect policy? Do nature and the environment play a crucial role in the cultural memory of a nation? Can cultural components be effectively leveraged in order to win approval for a politics of sustainability? And what can we, as residents of a country where climate change and global warming are flashpoints in an enduring culture war, learn from other cultures? This course is designed to equip undergraduate students with the historical and cultural tools necessary to understand the cultural aspects of sustainability in two countries noted for their ecological leadership and cultural innovation, Germany and the Netherlands.

This hybrid course combines online instruction with a short-term study abroad experience in Berlin and Rotterdam. During the pre-trip online portion of the course, students will become acquainted with the cultural histories of German and Dutch attitudes toward sustainability and the environment through a combination of recorded lectures by the instructor, reading assignments, viewing assignments (documentary and feature films), threaded discussions, and short written assignments. The goal of the pre-trip instruction are to help students develop tools for analyzing and interpreting cultural difference, construct working models of German and Dutch concepts of sustainability, and formulate hypotheses about the relation between culture and policy in Germany and the Netherlands.

The class will spend a total of ten days in Europe: five days in Berlin and five days in the area of Rotterdam. The days will be jam-packed with visits to important sites of sustainable practice; discussion with policy makers, activists, and scientists; and immersion in the cultures of the Netherlands and Germany. Upon our return from Europe, the class will debrief and students will present online projects. There are no prerequisites or language requirements.

203. (GRMN506) TEXTS AND CONTEXTS. (A) Staff. Prerequisite(s): GRMN 104 or the equivalent.

In this course, you will explore themes of cultural and historical significance in contemporary German-speaking countries through literature and nonfiction, through film and current event media coverage. Whether you wish to dive deeply into historical or political contexts, explore untranslatable cultural phenomena or the aesthetic rhythm and semantic complexity of the German language, GRMN 203 Texts and Contexts will inspire your imagination and deepen your understanding of German language, culture and literature. This is a

required course for all courses taught in German at or above the 200 level.

SM 232. (HIST230) Topics in European History. (M) Steinberg.
Topics vary annually.

The title for Fall 2015 is: The German Century: 1890-1990. The title for Spring 2016 is: Nazi Germany: Power and Ideology.

279. (COML094, ENGL094) Introduction to Literary Theory. (M) Staff.

This course introduces students to major issues in the history of literary theory.

SM 280. (PHIL280) Topics in Aesthetics. (M) Gibbons.

What is beauty? What is the relationship between beauty and goodness? What does aesthetic judgment tell us, if anything, about the world? This course addresses these and other questions by focusing predominantly on Kant's highly influential aesthetic theory. It situates this text in the context of other works on aesthetics. We begin with Plato's view expressed in The Symposium that beauty is a form to which humans gain (some) access through love. We then turn to essays by Shaftesbury and Hume that introduce key aesthetic notions that Kant will elaborate (and revise)--including those of taste, common sense, harmony, and aesthetic disinterest. We also read selections from the work of Friedrich Schiller, John Dewey, and A. K. Coomaraswamy who offer alternative accounts of the relationship between beauty and ethical life--a relationship that Kant acknowledges but considers to be importantly limited. The question of the relationship between ethics and aesthetics will form the backdrop for this semester's reading overall.

302. Places of Memory. Lieux de memoire. Erinnerungsorte. (A) Staff.
Prerequisite(s): GRMN 203 is a prerequisite. This course will be offered every fall semester. Taught in German.

What is culture? What is German? Where are the borders between German, Austrian and Swiss culture? What is part of the "cultural canon"? Who decides and what role does memory play? Relying on the theory of collective memory (Halbwachs) and the concept of "places of memory" (Erinnerungsorte; Nora, Francois/Schulze) and with reference to exemplary scholarly and literary texts, debates, songs, films, documents, and paintings from high and pop culture, this course will weave a mosaic of that which (also) constitutes German or German-language culture.

SM 364. Topics vary annually. The topic for Spring 2015 is: Unhuman Encounters. (M) Dayioglu-Yucel.
Prerequisite(s): GRMN 203 or equivalent.
Taught in German.

Topics vary annually. The course description for Spring 2015 is as follows: Typically "the Other" stands for a person or a group of people from another cultural background. But there have always been other encounters that forced people to distinguish themselves from an "other". Foremost, in order to define what is "human", the "unhuman" needed to be described. Initially, this meant distinguishing the human from the rest of nature. With the industrial revolution, the technological became a concern--machines as monsters. On a figurative level, we have the supernatural, ghosts, aliens, and cyborgs. In this course we will explore the ways in which real and imagined encounters with these "other Others" are depicted in German language literature and culture.

SM 526. (COML523, ENGL571, GSWS525, HSSC594) The Trouble with Freud: Psychoanalysis, Literature, Culture. (M) Weissberg.
Readings and discussions in English.

For professionals in the field of mental care, Freud's work is often regarded as outmoded, if not problematic. Psychologists view his work as non-scientific, dependent on theses that cannot be confirmed by experiments. In the realm of literary and cultural theory, however, Freud's work seems to have relevance still, and is cited often. How do we understand the gap between a medical/scientific reading of Freud's work, and a humanist one? Where do we locate Freud's relevance today? The graduate course will concentrate on Freud's descriptions of psychoanalytic theory and practice, as well as his writings on literature and culture.

SM 527. (PHIL526) Philosophy & Psychoanalysis: Freud and the Interpretation of Culture. (M) Steinberg, S.

More than a century after Sigmund Freud transformed--for better or worse--our understanding of what it means to be human. Freudian psychoanalysis still exerts a profound influence in our culture. This seminar course is an exploration of the philosophical issues raised by Freudian psychoanalysis as a theory of mind and culture. After a close reading of Freud's theoretical writings on the nature of the mind and human behavior, we will explore why Freud's theories--despite more than a century of criticism--remain highly

influential as a framework for the interpretation of art, literature, religion, society, politics, and history. Readings from Freud's "meta-psychological", cultural, and social writings, Paul Ricoeur's *Freud and Philosophy*, and other contemporary authors in philosophy, psychoanalysis, and other fields. No previous knowledge of psychoanalysis, psychology, or philosophy required.

SM 542. (ARTH563, COML542, NELC584) Topics in Culture. (M) Staff.

Topics vary annually.

SM 567. (PHIL467) Topics in History of Philosophy. Topics change annually. Title for Spring 2016 is: Schiller's Philosophical Writings. (M) Hahmann. Seminar taught in English.

Topics change annually. Topic title for Spring 2016 is: Schiller's Philosophical Writings. Today Friedrich Schiller is primarily known for his dramas and poems. However, during a period of several years (after he was appointed professor of History in Jena) he was also concerned with philosophical issues. The focus was mainly on questions of aesthetics and philosophy of history. With regard to both, it was Kant who was extremely influential for the development of Schiller's philosophical position. But Schiller did not simply copy or rearrange Kantian ideas, in fact, he evolved Kantian philosophy significantly in numerous respects. And even though Schiller later gave up with his philosophical ambitions--in a letter he even dismissed his philosophical efforts altogether as immature--his specific understanding of Kantian philosophy became extremely influential for the genesis of German idealism in general, but in particular shaped the reception of Kantian ideas by Hegel. In this seminar we will look at Schiller's most important philosophical writings and address both his conception of aesthetics and his approach to philosophy of history.

SM 628. Topics 18th Century, vary annually. Topic for Fall 2014 is: Wolfgang's Lehrjahre. (M) Richter.
Graduate seminar, taught in German.

Topic for Fall 2014 is: Wolfgang's Lehrjahre (1765-1774) The decade before the publication of Goethe's *Die Leiden des jungen Werthers* is full of literary ferment. The goal of this course is to gain a sense of the multiplicity of projects and perspectives in this crucial decade in order to break down any teleology that might see *Werther* as its crowning triumph. In other words, this is a course in the "politics" of literature

and literary aesthetics. Works to be read, discussed, and reported on include: Kant, *Beobachtungen ueber das Gefuehl des Schoenen und Erhabenen*; Klopstock, *Salomo, ein Trauerspiel*; Gleim, *Lieder nach dem Anakreon*; Herder, *Fragmente ueber di neuere deutsche Literatur*; Lessing, *Laokoon oder ueber die Grenzen der Mahlerey und Poesie*; Wieland, *Geschichte des Agathon*; Lessing, *Minna von Barnhelm*; Mendelssohn, *Phaedon oder ueber die Unsterblichkeit der Seele*; von Gerstenberg, *Ugolino*; Wieland, *Musarion*; Klopstock, *Oden und Elegien*; La Roche, *Geschichte des Frauleins von Sternheim*; Herder, *Abhandlung ueber den Ursprung der Sprache*; Lavater, *Von der Physiognomik*; Lessing, *Emilia Galotti*; Goethe, *Goetz von Berlichingen mit der eisernen Hand*; Herder, *Von deutscher Art und Kunst*; Nicolai, *Sebaldu Nothanker*; Wieland, *Alceste*; Zimmerman, *Von der Einsamkeit*; Blankenburg, *Versuch ueber den Roman*, and, of course, *Werther*.

GERMAN (GRMN)

SM 002. Lords of the Ring. (M) Frei. Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

"One Ring to rule them all; One Ring to find them; One Ring to bring them all and in the darkness bind them; In the Land of Mordor where the Shadows lie." (J.R.R. Tolkien) So begins your journey into legends and traditional lore. You will read stories of unrequited love, betrayal, magical powers, and the deeds of dragon slayers. This course traces the power of the tales of the ring from J.R.R. Tolkien to Richard Wagner, from the Middle High German epic the *Nibelungenlied* to the Norse poetry of *The Saga of the Volsungs*, and back to the twentieth century with Thomas Mann's *The Blood of the Walsungs*.

SM 003. (COML011) Censored! A History of Book Censorship. (M) Wiggin. Freshman Seminar. All readings and lectures in English. No knowledge of German is required.

Although its pages may appear innocuous enough, bound innocently between non-descript covers, the book has frequently become the locus of intense suspicion, legal legislation, and various cultural struggles. But what causes a book to blow its cover? In this course we will consider a range of specific censorship cases in the west since the invention of the printed book to the present day. We will consider the role of various censorship authorities (both religious and secular) and grapple with the timely question about whether censorship is

ever justified in building a better society. Case studies will focus on many well-known figures (such as Martin Luther, John Milton, Voltaire, Benjamin Franklin, Goethe, Karl Marx, and Salman Rushdie) as well as lesser-known authors, particularly Anonymous (who may have chosen to conceal her identity to avoid pursuit by the Censor).

SM 010. (JWST101) Translating Cultures. (M) Hellerstein. Freshman seminar. All readings and lectures in English. No knowledge of German is required.

"Languages are not strangers to one another," writes the great critic and translator Walter Benjamin. Yet two people who speak different languages have a difficult time talking to one another, unless they both know a third, common language or can find someone who knows both their languages to translate what they want to say. Without translation, most of us would not be able to read the Bible or Homer, the foundations of Western culture. Americans wouldn't know much about the cultures of Europe, China, Africa, South America, and the Middle East. And people who live in or come from these places would not know much about American culture. Without translation, Americans would not know much about the diversity of cultures within America. The very fabric of our world depends upon translation between people, between cultures, between texts.

With a diverse group of readings, -- autobiography, fiction, poetry, anthropology, and literary theory -- this course will address some fundamental questions about translating language and culture. What does it mean to translate? How do we read a text in translation? What does it mean to live between two languages? Who is a translator? What are different kinds of literary and cultural translation? What are their principles and theories? Their assumptions and practices? Their effects on and implications for the individual and the society?

SM 011. Bad Taste. (M) MacLeod. Freshman seminar. All readings and lectures in English. No knowledge of German is required.

"Beauty is not a quality inherent to things: it only exists in the mind of the beholder." (David Hume) "Taste classifies, and it classifies the classifier." (Pierre Bourdieu) "Kitsch causes two tears to flow in quick succession. The first tear says: How nice to see children on the grass. The second tear says: How nice to be moved, together with all mankind, by children running on the

grass! The second tear makes kitsch kitsch." (Milan Kundera)

Most of us can recognize bad taste as soon as we see it: Harlequin romances, Elvis on black velvet, lawn ornaments. But bad taste also has a history, and kitsch has been identified as a peculiarly modern invention related to capitalism and consumerism. Beginning with a discussion of taste in the eighteenth century (Hume, Kant), we will investigate under what conditions good taste can go bad, for example when it is the object of mass reproduction, and, on the other hand, why bad taste in recent times has increasingly been recuperated as an art form. Categories such as the cute, the sentimental, the miniature, kitsch, and camp will be explored. We will also ask what forms of ideological work have been done by this brand of aesthetics, for example in the connection between politics and kitsch, femininity and the low-brow, or camp and queer identity.

101. (GRMN501) Elementary German I. (C) Staff.

Designed for the beginning student with no previous knowledge of German. German 101, as the first course in the first-year series, focuses on the development of language competence in listening, speaking, reading, and writing. By the end of the semester, students will be able to engage in simple conversations about familiar things, know greetings and everyday expressions, they will be able to count and tell time, and negate sentences in day-to-day contexts. Furthermore, students will be able to speak about events that happened in the immediate past and express plans for the future. In addition, students will have developed reading strategies that allow them to glean information from simple newspaper and magazine articles and short literary texts. Because cultural knowledge is one of the foci of German 101, students will learn much about practical life in Germany and will explore German-speaking cultures on the Internet.

102. (GRMN502) Elementary German II. (C) Staff. Prerequisite(s): GRMN 101 or equivalent.

This course is a continuation of GRMN 101 and is designed to strengthen and expand students' listening, speaking, reading, and writing competence and to deepen an understanding of German-speaking cultures. By the end of the course, students will be able to handle a variety of day-to-day needs in a German-speaking setting and engage in simple conversations about personally significant topics. Students can expect to be able to order food and

beverages, purchase things, and to be familiar with the German university system, the arts, and current social topics. Students will begin to be able to talk about the past and the future, make comparisons, describe people and things in increasing detail, make travel plans that include other European countries, and make reservations in hotels and youth hostels. By the end of the course students will be able to talk about their studies and about their dreams for the future. In addition, students will develop reading strategies that should allow them to understand the general meaning of articles, and short literary texts.

Furthermore, students will feel more able to understand information when hearing German speakers talking about familiar topics. Cultural knowledge remains among one of the foci of German 102, and students will continue to be exposed to authentic materials.

103. (GRMN503) Intermediate German I. (C) Staff. Prerequisite(s): GRMN 102 or equivalent.

This course is designed to improve students writing and speaking competence, to increase vocabulary, to deepen grammar usage, and to help develop effective reading and listening strategies in German across literary genres and media as students interpret and analyze cultural, political, and historical moments in German-speaking countries and compare them with their own cultural practices. This course is organized around content-based modules and prepares students well for GRMN 104 and a minor or major in German.

104. (GRMN504) Intermediate German II. (C) Staff. Prerequisite(s): GRMN 103 or equivalent.

A continuation of GRMN 103. Expands students writing and speaking competence in German, increases vocabulary and helps students practice effective reading and listening strategies. Our in-class discussions are based on weekly readings of literary and non-literary texts to facilitate exchange of information, ideas, reactions, and opinions. In addition, the readings provide cultural and historical background information. The review of grammar will not be the primary focus of the course. Students will, however, expand and deepen their knowledge of grammar through specific grammar exercises. Students will conclude the basic-language program at PENN by reading an authentic literary text; offering the opportunity to practice and deepen reading knowledge and to sensitize cultural and historical awareness of German-speaking countries.

106. (GRMN505) Accelerated Elementary German. (A) Staff.

This course is intensive and is intended for dedicated, highly self-motivated students who will take responsibility for their learning and creation of meaning with their peers.

An intensive two credit course in which two semesters of elementary German (GRMN 101 & 102) are completed in one. Introduction to the basic elements of spoken and written German, with emphasis placed on the acquisition of communication skills. Readings and discussions focus on cultural differences. Expression and comprehension are then expanded through the study of literature and social themes.

107. (GRMN514) Accelerated Intermediate German. (B) Staff.

Prerequisite(s): 102 or 106 or equivalent.

This course is intensive and is intended for dedicated, highly self-motivated students who will take responsibility for their learning and creation of meaning with their peers. This accelerated course is designed to improve students writing and speaking competencies, to increase vocabulary, to deepen grammar usage, and to help develop effective reading and listening strategies in German across literary genres and media as students interpret and analyze cultural, political, and historical moments in German-speaking countries and compare them with their own cultural practices. This course is organized around content-based modules. Students conclude the basic-language program at PENN by reading an authentic literary text; offering the opportunity to practice and deepen reading knowledge and to sensitize cultural and historical awareness of German-speaking countries.

180. German in Residence. (C) Staff.

The German House is a half-credit course with concentrations in German conversation, film, and culture. Though many students enroll for credit, others often come to select events. All interested parties are invited, and you do not have to actually live in the house to enroll for credit. Students from all different levels of language proficiency are welcome. Beginners learn from more advanced students, and all enjoy a relaxed environment for maintaining or improving their German language skills.

219. Business German: A Macro Perspective. (A) James. Prerequisite(s): GRMN 203 or equivalent. No previous knowledge of economics or business required. Course taught in German.

This course offers you insights into the dynamics of Business German, while taking a macro approach. Examples of various course topics include: economic geography and its diversity, the changing role of the European Union, and the economic importance of national transportation and tourism. In addition, the course emphasizes the development of students' discourse competencies, Business German vocabulary and grammar. Course assignments include oral presentations on current events, class discussions, role-play, and collaborative group work. Class time will be utilized to practice speaking, answering questions, reviewing exercises and holding group discussions on various topics. Class participation is a key component of this course.

220. Business German: A Micro Perspective. (B) James. Prerequisite(s): GRMN 203 or equivalent. Course taught in German.

This course is designed to enhance your speaking, reading and writing skills, in addition to helping you build a strong foundation in business vocabulary. Course objectives include acquiring skills in cross cultural communication, teamwork, business management, and creating a business plan. German grammar will be covered on a need be basis. This course will prepare you to perform and contribute while in a German-speaking business environment.

SM 233. (COML233) Censored! The Book and Censorship Since Gutenberg. (M) Wiggin.

Although its pages may appear innocuous enough, bound innocently between non-descript covers, the book has frequently become the locus of intense suspicion, legal legislation, and various cultural struggles. But what causes a book to blow its cover? In this course we will consider a range of specific censorship cases in the west since the invention of the printed book to the present day. We will consider the role of various censorship authorities (both religious and secular) and grapple with the timely question about whether censorship is ever justified in building a better society. Case studies will focus on many well-known figures (such as Martin Luther, John Milton, Voltaire, Benjamin Franklin, Goethe, Karl Marx, and Salman Rushdie) as well as lesser-known authors, particularly Anonymous (who may have

chosen to conceal her identity to avoid pursuit by the Censor).

235. (COML238) Autobiographical Writing. (M) Weissberg.

How does one write about oneself? Who is the "author" writing? What does one write about? And is it fiction or truth? Our seminar on autobiographical writing will pursue these questions, researching confessions, autobiographies, memoirs, and other forms of life-writing both in their historical development and theoretical articulations. Examples will include selections from St. Augustine's confessions, Rousseau's Confessions, Franklin's Autobiography, as well as many examples from contemporary English, German, French, and American literature.

L/R 237. (ARTH237, COML237, HIST237, URBS237) Berlin: History, Politics, Culture. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Weissberg. All readings and lectures in English.

What do you know about Berlin's history, architecture, culture, and political life? The present course will offer a survey of the history of Prussia, beginning with the seventeenth century, and the unification of the small towns of Berlin and Koeln to establish a new capital for this country. It will tell the story of Berlin's rising political prominence in the eighteenth century, its transformation into an industrial city in the late nineteenth century, its rise to metropolis in the early twentieth century, its history during the Third Reich, and the post-war cold war period. The course will conclude its historical survey with a consideration of Berlin's position as a capital in reunified Germany. The historical survey will be supplemented by a study of Berlin's urban structure, its significant architecture from the eighteenth century (i.e. Schinkel) to the nineteenth (new worker's housing, garden suburbs) and twentieth centuries (Bauhaus, Speer designs, postwar rebuilding, GDR housing projects, post-unification building boom). In addition, we will read literary texts about the city, and consider the visual art and music created in and about Berlin. Indeed, Berlin will be a specific example to explore German history and cultural life of the last 300 years.

The course will be interdisciplinary with the fields of German Studies, history, history of art, and urban studies. It is also designed as a preparation for undergraduate students who are considering spending a junior semester with the Penn Abroad Program in Berlin.

SM 239. (COML209, ENGL275, ENGL375, ENV239, STSC368) Sustainability & Utopianism.

Humanities & Social Science Sector. Class of 2010 & beyond. Wiggin. Taught in English.

This seminar explores how the humanities can contribute to discussions of sustainability. We begin by investigating the contested term itself, paying close attention to critics and activists who deplore the very idea that we should try to sustain our, in their eyes, dystopian present, one marked by environmental catastrophe as well as by an assault on the educational ideals long embodied in the humanities. We then turn to classic humanist texts on utopia, beginning with More's fictive island of 1517. The "origins of environmentalism" lie in such depictions of island edens (Richard Grove), and our course proceeds to analyze classic utopian texts from American, English, and German literatures. Readings extend to utopian visions from Europe and America of the nineteenth and twentieth centuries, as well as literary and visual texts that deal with contemporary nuclear and flood catastrophes. Authors include: Bill McKibben, Jill Kerr Conway, Christopher Newfield, Thomas More, Francis Bacon, Karl Marx, Henry David Thoreau, Robert Owens, William Morris, Charlotte Perkins Gilman, Ayn Rand, Christa Wolf, and others.

L/R 242. (COML126) The Fantastic and Uncanny in Literature: Ghosts, Spirits & Machines. (M) Arts & Letters Sector. All Classes. Weissberg. All readings and lectures in English.

Do we still believe in spirits and ghosts? Do they have any place in an age of science of technology? Can they perhaps help us to define what a human being is and what it can do? We will venture on a journey through literary texts from the late eighteenth century to the present to explore the uncanny and fantastic in literature and Our discussions will be based on a reading of Sigmund Freud's essay on the uncanny, and extraordinary Romantic narratives by Ludwig Tieck, E.T.A. Hoffmann, Edgar Allan Poe, Nathaniel Hawthorne, Prosper Merimee, Villiers de Isle-Adam, and others.

L/R 244. (CIMS244, COML254, URBS244) Metropolis: Culture of the City. (M) Arts & Letters Sector. All Classes. MacLeod. All lectures and readings in English.

An exploration of modern discourses on and of the city. Topics include: the city as site of avant-garde experimentation;

technology and culture; the city as embodiment of social order and disorder; traffic and speed; ways of seeing the city; the crowd; city figures such as the detective, the criminal, the flaneur, the dandy; film as the new medium of the city. Special emphasis on Berlin. Readings by, among others, Dickens, Poe, Baudelaire, Rilke, Doebelin, Marx, Engels, Benjamin, Kracauer. Films include Fritz Lang's Metropolis and Tom Tykwer's Run Lola Run.

247. (COML247, PHIL247) Free Radicals: Marx, Marxism, and the Culture of Revolution. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Staff. All readings and lectures in English.

"A spectre is haunting Europe--the spectre of Communism": This, the famous opening line of The Communist Manifesto, will guide this course's exploration of the history, legacy, and potential future of Karl Marx's most important texts and ideas, even long after Communism has been pronounced dead. Contextualizing Marx within a tradition of radical thought regarding politics, religion, and sexuality, we will focus on the philosophical, political, and cultural origins and implications of his ideas. Our work will center on the question of how his writings seek to counter or exploit various tendencies of the time; how they align with the work of Nietzsche, Freud, and other radical thinkers to follow; and how they might continue to haunt us today. We will begin by discussing key works by Marx himself, examining ways in which he is both influenced by and appeals to many of the same fantasies, desires, and anxieties encoded in the literature, arts and intellectual currents of the time. In examining his legacy, we will focus on elaborations or challenges to his ideas, particularly within cultural criticism, postwar protest movements, and the cultural politics of the Cold War. In conclusion, we will turn to the question of Marxism or Post-Marxism today, asking what promise Marx's ideas might still hold in a world vastly different from his own.

248. (COML268, PHIL067, RELS238) Nietzsche's Modernity and the Death of God. (M) Staff. All readings and lectures in English.

"God is dead." This famous, all too famous death sentence, issued by the 19th-century German philosopher Friedrich Nietzsche, also signaled the genesis of a radical challenge to traditional notions of morality, cultural life, and the structure of society as a whole. In this course we will examine

both the "modernity" of Nietzsche's thought and the ways in which his ideas have helped to define the very concept of Modernity (and, arguably, Postmodernity) itself. In exploring the origin and evolution of Nietzsche's key concepts, we will trace the ways in which his work has been variously revered or refuted, championed or co-opted, for more than a century. We will survey his broad influence on everything from philosophy and literature to music and art, theater and psychology, history and cultural theory, politics and popular culture. Further, we will ask how his ideas continue to challenge us today, though perhaps in unexpected ways. As we will see, Nietzsche wanted to teach us "how to philosophize with a hammer."

SM 249. (COML140, COML248, COML355, ENGL259, RUSS252) Topics in Modernism. (M) Staff. Topics vary annually.

This course explores an aspect of literary modernism intensively; specific course topics will vary from year to year.

L/R 253. (COML253, ENGL105, GSWS252, HIST253, HSOC253) Freud: The Invention of Psychoanalysis. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Weissberg. All readings and lectures in English.

No other person of the twentieth century has probably influenced scientific thought, humanistic scholarship, medical therapy, and popular culture as much as Sigmund Freud. This course will study his work, its cultural background, and its impact on us today.

In the first part of the course, we will learn about Freud's life and the Viennese culture of his time. We will then move to a discussion of seminal texts, such as excerpts from his *Interpretation of Dreams*, case studies, as well as essays on psychoanalytic practice, human development, definitions of gender and sex, neuroses, and culture in general. In the final part of the course, we will discuss the impact of Freud's work. Guest lecturers from the medical field, history of science, psychology, and the humanities will offer insights into the reception of Freud's work, and its consequences for various fields of study and therapy.

258. (CIMS258, COML270) German Cinema. (M) Arts & Letters Sector. All Classes. MacLeod. All readings and discussions in English.

An introduction to the momentous history of German film, from its beginnings before World War One to developments following

the fall of the Berlin Wall in 1989 and German reunification in 1990. With an eye to film's place in its historical and political context, the course will explore the "Golden Age" of German cinema in the Weimar Republic, when Berlin vied with Hollywood; the complex relationship between Nazi ideology and entertainment during the Third Reich; the fate of German film-makers in exile during the Hitler years; post-war film production in both West and East Germany; the call for an alternative to "Papa's Kino" and the rise of New German Cinema in the 1960s.

259. (CIMS259, COML261, GRMN550) Topics in Film History. (M) Katz, Corrigan, Decherney, Beckman.

This topic course explores aspects of Film History intensively. Specific course topics vary from year to year. See the Cinema Studies website at <http://cinemastudies.sas.upenn.edu> for a description of the current offerings.

261. (CIMS279, COML265, ENGL279, JWST261) Jewish Films and Literature. (M) Arts & Letters Sector. All Classes. Hellerstein. All readings and lectures in English.

From the 1922 silent film "Hungry Hearts" through the first "talkie," "The Jazz Singer," produced in 1927, and beyond "Schindler's List," Jewish characters have confronted the problems of their Jewishness on the silver screen for a general American audience. Alongside this Hollywood tradition of Jewish film, Yiddish film blossomed from independent producers between 1911 and 1939, and interpreted literary masterpieces, from Shakespeare's "King Lear" to Sholom Aleichem's "Teyve the Dairyman," primarily for an immigrant, urban Jewish audience. In this course, we will study a number of films and their literary sources (in fiction and drama), focusing on English language and Yiddish films within the framework of three dilemmas of interpretation: a) the different ways we "read" literature and film, b) the various ways that the media of fiction, drama, and film "translate" Jewish culture, and c) how these translations of Jewish culture affect and are affected by their implied audience.

262. (GSWS162, JWST102, NELC154) Women in Jewish Literature. (M) Arts & Letters Sector. All Classes. Hellerstein. All readings and lectures in English.

This course introduces students of literature, women's studies, and Jewish studies to the long tradition of women as readers, writers, and subjects in Jewish literature. All texts will be in translation

from Yiddish and Hebrew, or in English. Through a variety of genres--devotional literature, memoir, fiction, and poetry -- we will study women's roles and selves, the relation of women and men, and the interaction between Jewish texts and women's lives. The legacy of women in Yiddish devotional literature will serve as background for our reading of modern Jewish fiction & poetry from the past century. The course is divided into five segments. The first presents a case study of the Matriarchs Rachel and Leah, as they are portrayed in the Hebrew Bible, in rabbinic commentary, in pre-modern prayers, and in modern poems. We then examine a modern novel that recasts the story of Dinah, Leah's daughter. Next we turn to the seventeenth century Glikl of Hamel, the first Jewish woman memoirist. The third segment focuses on devotional literature for and by women. In the fourth segment, we read modern women poets in Yiddish, Hebrew, and English. The course concludes with a fifth segment on fiction and a memoir written by women in Yiddish, Hebrew, and English.

"Jewish woman, who knows your life? In darkness you have come, in darkness do you go." J. L. Gordon (1890)

SM 263. (COML277, ENGL261, JWST261) Jewish American Literature. (M) Arts & Letters Sector. All Classes. Hellerstein. All readings and lectures in English.

What makes Jewish American literature Jewish? What makes it American? This course will address these questions about ethnic literature through fiction, poetry, drama, and other writings by Jews in America, from their arrival in 1654 to the present. We will discuss how Jewish identity and ethnicity shape literature and will consider how form and language develop as Jewish writers "immigrate" from Yiddish, Hebrew, and other languages to American English. Our readings, from *Jewish American Literature: A Norton Anthology*, will include a variety of stellar authors, both famous and less-known, including Isaac Mayer Wise, Emma Lazarus, Isaac Bashevis Singer, Celia Dropkin, Abraham Cahan, Anzia Yezierska, Saul Bellow, Philip Roth, Cynthia Ozick, and Allegra Goodman. Students will come away from this course having explored the ways that Jewish culture intertwines with American culture in literature.

SM 264. (COML260, JWST264) Translating Cultures: Literature on and in Translation. (M) Arts & Letters Sector. All Classes. Hellerstein. Benjamin Franklin Seminar. All readings and lectures in English.

"Languages are not strangers to one another," writes the great critic and translator Walter Benjamin. Yet two people who speak different languages have a difficult time talking to one another, unless they both know a third, common language or can find someone who knows both their languages to translate what they want to say. Without translation, most of us would not be able to read the Bible or Homer, the foundations of Western culture. Americans wouldn't know much about the cultures of Europe, China, Africa, South America, and the Middle East. And people who live in or come from these places would not know much about American culture. Without translation, Americans would not know much about the diversity of cultures within America. The very fabric of our world depend upon translation between people, between cultures, between texts.

With a diverse group of readings--autobiography, fiction, poetry, anthrology, and literary theory--this course will address some fundamental questions about translating language and culture. What does it mean to translate? How do we read a text in translation? What does it mean to live between two languages? Who is a translator? What are different kinds of literary and cultural translation? what are their principles and theories? Their assumptions and practices? Their effects on and implications for the individual and the society?

265. (EUR265, GRMN565, HIST265, JWST265, JWST465) Yiddish in Eastern Europe. (M) Hellerstein. All readings and lectures in English.

This course presents the major trends in Yiddish literature and culture in Eastern Europe from the mid-19th century through World War II. Divided into four sections - "The Shtetl," "Religious vs. Secular Jews," "Language and Culture," and "Confronting Destruction" - this course will examine how Jews expressed the central aspects of their experience in Eastern Europe through history, literature (fiction, poetry, drama, memoir), film, and song.

318. (GRMN536) Foreign Exchanges: German Travel Literature and the East. (M) Wiggin. Prerequisite(s): GRMN 203 or equivalent. This course is taught in German.

For centuries the "Orient" has functioned as an important concept in formulating a European as well as a specifically German identity. In the context of today's debates about the expansion of Europe and the so-called war on terrorism, it is a concept which demands further historical investigation. On the basis of travel narratives and other texts, we will explore this key term, noting how it has been insistently (re)formulated since the beginnings of modernity. We will also investigate several theoretical models which can help us to think through the cultural encounters documented in the primary works. A series of fundamental questions will accompany us through the semester: Where is the East? Is the East a homogenous place eliciting either fear or wonder? Who lives in the East and how are the "customs and manners" of its inhabitants comprehended? What happens to a German in the East? And, vice versa, what happens to an "Oriental" in Germany? Is the East only in the East? Can one also find the East in Germany?

325. Politics of the Past: Telling Early Modern Tales to Modern Readers. (M) Wiggin. Prerequisite(s): GRMN 203 or equivalent. Taught in German.

In this class we will focus on how literary hi/stories are (re)written, and to what ends. Over the course of the semester, texts from the seventeenth century will be paired alongside a rewrite from the twentieth. Paired readings may include: Martin Opitz (Buch von der deutschen Poeterey) and Gunther Grass (Das Treffen in Telgt), Grimmshausen (Coursache) and Bertold Brecht (Mutter Courage) and Abraham Í Sancta Clara (Predigten) and Barbara Frischmuth (Die Klosterschule). In our discussions, we will explore a series of related questions: How does the older text resonate within the new? How does the newer text comment on the old? What are the politics of such dialogues with the distant past?

SM 330. (COML330, DTCH330, DTCH509, PHIL280) ADV TOPICS DUTCH STUDIES. (M) Staff. Taught in English.

Topics vary annually

356. Crime and Detection - Dark Deeds. (M) Frei. Taught in German.

The detective story and the crime drama are time-honored genres of literature and popular culture. We are drawn to morbid scenes of violence and crime, and satisfied by the apprehension of criminals and their punishment. At the same time, the process of detection, of deciphering clues, is much like the process of reading and interpretation.

In this course we will read a variety of detective and crime stories, some by famous authors (e.g., Droste-Huelshoff, Fontane, Handke), others by contemporary authors that address interesting aspects of German culture (e.g., Turkish-Germans, gay and lesbian subcultures, DDR and Wende). We will also look at episodes from popular West, East, and post-reunification German TV crime shows (e.g., Tatort).

360. German Culture: Prose of the Twentieth Century. (M) Staff. Taught in German.

Lectures and discussions of major works of modern German prose narrative, including Kafka, Mann, Hesse, Seghers, Grass, and Boell.

375. German Literature after 1945. (M) Staff. Taught in German.

Focus on the continuity of the literary tradition, innovation, and prominent themes related to coming-of-age in today's society, and specific stylistic experiments. Topics include: the changing literary perspective on German history and World War II; the representation of such prominent issues as individual responsibility, German reunification, and human relations in modern society.

377. Germany and the European Union. (M) Shields. Prerequisite(s): GRMN 203 or equivalent. Taught in German.

In January 1999, a single monetary system united Germany, a core nation, with 10 other European states. Since January 2002 Euro bank notes and coins have gone into circulation in 12 European countries. The European Union is now stronger than ever before, and on May 1, 2004 ten more countries joined the EU - the largest-ever expansion. Is the EU benefiting from this enlargement or does the arrival of so many new members drain money from the EU budget and slow down the EU decision-making? This course will provide an overview of the political and economic developments towards integration in post-war Europe, focusing on Germany's key role. Studying content-rich reading materials, it explores historic-political,

social, economic and cultural issues that are urgent for Germany as well as the European community. Accompanying activities will help students to improve the level of complexity of their language skills.

378. Foreign in Germany. (M) Shields. Prerequisite(s): GRMN 203 or equivalent. Taught in German.

Foreign minority groups are integral elements of German society. This course will provide an overview of the history of foreigners in Germany and their political, social and economic significance. Content-rich reading materials will show Germany as a country that is rapidly developing into a multinational, multiracial and multicultural society. Focusing on the various attitudes of Germans held towards foreigners and the foreigners' attitudes towards life in Germany, the text selection will provide the basis for in-depth study of the subject, including the development of German policy regarding foreigners.

379. Decadence. (M) Weissberg. Prerequisite(s): GRMN 203 or equivalent. Lectures and discussions in German.

The period of the late nineteenth and turn to the twentieth century has often been described as a time of decadence--a decline in the "standards" of morals and virtue. While Freud explored the nature of sexual desire, writers like Schnitzler or Wedekind made this exploration central for their stories or plays. The course will focus on the literature and culture of fin-de-siecle Vienna and Berlin, and consider a variety of texts as well as their later reception and translation into film. Lectures and discussion in German.

380. (GRMN584) Heimat. (M) MacLeod. Prerequisite(s): GRMN 203 or equivalent. Taught in German.

The concept of Heimat (homeland, home, roots) has been a focal point of German culture for at least the past two hundred years; but it has no precise translation into English. Heimat is deeply connected with German notions of modernity, nature, community, and gender; but the question of where one belongs has also been associated with escapism, exclusion and marginality. Beginning with a reading of Freud's essay "Das Unheimliche," we will explore literary representations of Heimat (including works by authors such as Eichendorff, Storm, Stifter, Raabe, and Sebald); nineteenth-century paintings by artists such as Leibl; and Edgar Reitz's epic film Heimat (1984).

SM 381. Topics in German Culture: Consuming Culture. (M) Staff.

Prerequisite(s): GRMN 203 or equivalent. Taught in German.

Have you ever experienced Kaufrausch? Wondered why there are so many English words in German advertisements? Found German ice cream ads surprisingly...sexual? In this course we will ask how a critical examination of advertising and consumer culture can provide insight into the complex and sometimes contradictory dynamics of modern German (and American) culture. In posing this question, we will take a broad interdisciplinary approach in examining everything from art and literature to historical and demographic data and recent research into consumer anthropology and psychology.

401. Trans(l)its. (A) Wiggin, MacLeod. Prerequisite(s): GRMN 203. This course will be offered every fall semester.

The course, required for all majors in the fall of their senior year, considers movements between languages, including those of the students themselves. Research underscores the importance of providing students and adult language learners with the tools to reflect on their own languages learning. This required course provides an important space for German-learners at Penn to draw on one another's experiences in the program, to build a sense of community, and to complete a final project which, in the case of majors, serves to establish their senior thesis. Drawing on Goethe's musings on "world literature," the course focuses on authors who have arrived at their German words via global, worldly itineraries. Authors who adopt German as their literary language--sometimes called Chamisso authors in honor of the nineteenth-century writer Adalbert von Chamisso, by birth a French speaker--provide a special focus of this course. The course encourages students to become Chamisso authors themselves via a series of critical and creative writing exercises.

SM 403. Senior Colloquium. (B) Wiggin, MacLeod.

SM 507. Elementary Middle High German. (M) Staff. Middle High German for Reading Knowledge will be taught in English.

Designed to familiarize the student with the principal elements of Middle High German grammar and to develop skills in reading and translating a major work of the twelfth century. Limited text interpretation.

SM 510. (COML502, ENGL501, HIST590) Topics in Language and Literature. (M) Steiner. Topics vary annually. Topic for Fall 2015: Old English and Its Afterlives.

Topic for Fall 2015: Old English and its Afterlives. The first half or more of this course will be devoted to the study of 8th-12th-century language and literature, with attention to grammar, metrics, translation, and transmission. We will cover a wide range of texts, such as the life of Sait Andrew, a saint who saved his followers from cannibals. Aelfric's Preface to his landmark translation of the bible, King Alfred the Great's Preface to Gregory's Pastoral Care, a brilliant meditation on the relationship between memory and culture; Wulfstan's thunderous Sermon to the English, which rebukes the Anglo-Saxon for stooping to fratricide, incest, and child slavery during the Viking invasions; the very strange collection of monstrosities and prodigies, which we call The Wonders of the East; "Caedmon's Hymn", what might just be the first recorded poem in English, supposedly composed by an illiterate cowherd; and the stunningly beautiful lyric poem "The Dream of Rood" in which the Cross recounts its heroics during the Crucifixion.

In the second half of the course we will turn to post-Conquest literature (and beyond), as we explore the ways that medieval and early modern writers documented and theorized the Anglo-Saxon past. This section of the course will be determined part by student interests. Our questions will include the following: what constitutes a significant event? In what ways do different genres--chronicles, saints' lives, encyclopedias, sermons, romances, genealogies, geographies--offer competing or affirming views of the past? How do linguistic change and continuity matter? What impact did the Anglo-Saxons' pressing concerns with conquest, anonymity, decadence, and suffering have on late writers? And how did pre-Conquest England serve the needs of later English propaganda, antiquarianism, and reform? Students are not expected to know Old English, but we will need to get up to speed pretty quickly.

SM 516. Teaching Methods. (C) Frei.

This course examines major foreign language methodologies, introduces resources available to foreign language teachers, and addresses current issues and concerns of foreign language teaching and learning, such as second language acquisition theory and application of technology.

SM 517. (EDUC673, ROML691) Technology and Foreign Language Teaching. (B) Frei/McMahon.

This course focuses on the evaluation, design, and development of multimedia in foreign language teaching and seeks to spotlight intersections of pedagogy and technology. Emphases are on the evaluation and production of effective multimedia-based materials and the pedagogical concerns raised by their implementation.

In workshops, you will learn to use video-, image-, and sound-editing software applications. In weekly lectures, you will examine current trends and issues in pedagogically sound applications of technology. We will focus our discussions mainly on the efficacy of Web-based design and development.

You will design and produce an instructional project including different media such as text, image/graphics, sound, and video and create an on-line teaching portfolio as your final project.

SM 531. German Literature to 18th Century. (A) Staff.

Historical overview of authors, their works, genres, and epochs. Special attention to social, historical, cultural and religious backgrounds. Reading of selected works or passages.

SM 532. German Literature 18th Century to Present. (B) Staff.

A continuation of GRMN 531, this course examines literary developments from the Enlightenment to the present.

SM 534. (CLST511, COML501, ENGL571, SLAV500, SPAN682) History of Literary Theory. (M) Staff. Topics vary annually.

Over the last three decades, the fields of literary and cultural studies have been reconfigured by a variety of theoretical and methodological developments. Bracing-and-often confrontational-dialogues between theoretical and political positions as varied as Deconstruction. New Historicism, Cultural Materialism, Feminism, Queer Theory, Minority Discourse Theory, Colonial and Post-colonial Studies and Cultural Studies have, in particular, altered disciplinary agendas and intellectual priorities for students embarking on the /professional / study of literature. In this course, we will study key texts, statements and debates that define these issues, and will work towards a broad knowledge of the complex rewriting of the project of literary studies in process today. The reading list will keep in mind the Examination List in Comparative

Literature-we will not work towards complete coverage but will ask how crucial contemporary theorists engage with the longer history and institutional practices of literary criticism.

There will be no examinations. Students will make one class presentation, which will then be reworked into a paper (1200-1500 words) to be submitted one week after the presentation. A second paper will be an annotated bibliography on a theoretical issue or issues that a student wishes to explore further. The bibliography will be developed in consultation with the instructor; it will typically include three or four books and six to eight articles or their equivalent. The annotated bibliography will be prefaced by a five or six page introduction; the whole will add up to between 5000 and 6000 words of prose. Students will prepare "position notes" each week, which will either be posted on a weblog or circulated in class.

SM 535. (COML536) Goethe's Novels. (M) MacLeod. Prerequisite(s): Upper-level course, assumes some familiarity with German literature and culture.

With each of his major novels, Goethe intervened decisively and provocatively in the genre and wider culture. This seminar will analyze three of Goethe's novels spanning his career: the sensational epistolary novel *The Sorrows of Young Werther* (1774, rev. 1787); the novel of adultery *Elective Affinities* (1809), and the Bildungsroman *Wilhelm Meister's Apprenticeship* (1795/96). (We will also look ahead to his "archival" novel *Wilhelm Meister's Journeyman Years* [1829]). Particular attention will be paid to the ways in which these novels address questions of modernization - technology and secularization, to name only two - through the lens of individuals who understand themselves in relation to artistic media. We will also consider seminal scholarship on the novels (e.g. Benjamin, Lukacs) in addition to recent critical approaches.

536. (GRMN318) Foreign Exchanges: German Travel Literature and the East. (M) Wiggin. Taught in German.

For centuries the "Orient" has functioned as an important concept in formulating a European as well as a specifically German identity. In the context of today's debates about the expansion of Europe and the so-called war on terrorism, it is a concept which demands further historical investigation. On the basis of travel narratives and other texts, we will explore this key term, noting how it has been insistently (re)formulated since the beginnings of modernity. We will also

investigate several theoretical models which can help us to think through the cultural encounters documented in the primary works. A series of fundamental questions will accompany us through the semester: Where is the East? Is the East a homogenous place eliciting either fear or wonder? Who lives in the East and how are the "customs and manners" of its inhabitants comprehended? What happens to a German in the East? And, vice versa, what happens to an "Oriental" in Germany? Is the East only in the East? Can one also find the East in Germany?

SM 540. (ARTH560, COML539, ENGL588, JWST540) Memory, Trauma, Culture. (M) Weissberg. All readings and lectures in English.

In recent years, studies of memory (both individual and cultural) have rivaled those of history, and have produced alternative narratives of events. At the same time, research has also focused on the rupture of narrative, the inability to find appropriate forms of telling, and the experience of a loss of words. The notion of trauma (Greek for "wound") may stand for such a rupture. Many kinds of narratives, most prominently the recollections of Holocaust survivors, are instances in which memories are invoked not only to come to terms with traumatic events, but also to inscribe trauma in various ways. In this seminar, we will read theoretical work on memory and trauma, discuss their implication for the study of literature, art, and culture, read select examples from Holocaust survivors' autobiographies (i.e. Primo Levi, EliWiesel), and discuss visual art (i.e. Boltanski, Kiefer) and film (i.e. Resnais, Lanzmann, Spielberg).

550. (CIMS550, COML552, GRMN259) German Film History and Analysis. (M) Richter. Topics vary annually.

From the early 20th century, German cinema has played a key role in the history of film. Seminar topics may include: Weimar cinema, film in the Nazi period, East German film, the New German cinema, and feminist film.

SM 551. (PHIL465) Kant's First Critique. (M) Horstmann.

Kant's "Critique of Judgment" (1790) is the third and last of his three Critiques. It is of major importance for an understanding of Kant's philosophy as a whole in at least three respects. 1) Being the latest of the three Critiques it gives the ultimate view Kant has with regard to his 'critical system' in its entirety. This view is presented explicitly both in the unpublished First Introduction and the published version of

the Introduction to the third Critique. 2) It contains as its first part his theory of the judgment of taste, i.e. his aesthetic theory. This theory is of interest not just because of its immense influence on subsequent theories of the beautiful but also because of the way it tries to solve the problem of the universal validity of judgments that do not have the status of judgments of cognition. 3) The third Critique presents in its second part Kant's attempt to integrate living organisms as objects of knowledge into his epistemological framework. It thus comprises his philosophy of biology and his discussion of the status and the function of teleological explanations in science.

Though the seminar is meant to deal with all these aspects it can -- depending on the interests of the participants -- focus with different intensity on each of these.

SM 552. (PHIL466) Kant II. (M) Guyer.

A study of Kant's moral philosophy, political philosophy, and aesthetics, focusing on his Groundwork for the Metaphysics of Morals, Critique of Practical Reason, Metaphysics of Morals, and Critique of Judgement.

SM 553. (COML581, RELS508) Hermeneutics. (M) Dunning.

Theory of interpretation and the construction of meaning. Focus is usually on a text by Hegel or Gadamer. May be repeated for credit.

SM 560. (COML559, ENGL590, JWST560, PHIL551) Topics in Philosophy and Literature. (M)

Spoerhase. Topics vary. The title for Fall 2015 is: Adorno and Literary Theory.

The topic for Fall 2015 is: Adorno and Literary Theory. Theodore W. Adorno consistently developed his cultural and social theory in close engagement with art works. During the seminar, therefore, we will be reading both the theoretical reflections of Adorno on art (especially literature) as well as his interpretations of literary texts. We will be taking a closer look at (a) his reflections associated with literary form, (b) his fundamental reflections on the relationship between literature and society, and (c) his specific interpretations of German literature-- including his famous interpretations of Goethe, Hoelderlin, Eichendorff, and Hebbel.

565. (EUR265, GRMN265, HIST265, JWST265, JWST465) Yiddish in Eastern Europe. (M) Hellerstein. All readings and lectures in English.

This course presents the major trends in Yiddish literature and culture in Eastern

Europe from the mid-19th century through World War II. Divided into four sections - "The Shtetl," "Religious vs. Secular Jews," "Language and Culture," and "Confronting Destruction" - this course will examine how Jews expressed the central aspects of their experience in Eastern Europe through history, literature (fiction, poetry, drama, memoir), film, and song.

SM 568. (PHIL568) Hegel's Aesthetics. (M) Hindrichs.

Prerequisite(s): GRMN 216 or equivalent. Upper-level course, assumes some familiarity with German literature and culture. This course is taught in German.

SM 573. (ARTH573, CIMS515, COML570, ENGL573, FREN573) Topics in Criticism & Theory: Auteurism: Theories and Practices. (M) Corrigan.

Auteurism has arguably been at the center of film practice, theory and historiography since the 1950s. Originating in the work of the French New Wave, auteurism has shaped our understanding of many film cultures around the world and across different media beyond the cinema. This course will examine the history of auteurism as it has evolved from France to the U.S. and through national cinemas from China and India to Iran and Denmark. As part of this study, we'll investigate the changing theoretical terms of auteurism as it has adapted to the pressures of post-structuralist theory, feminist interventions, cultural and racial distinctions, and the challenges of new media.

SM 578. (ARTH561, ARTH701) Topics in Art History. (M) Silver.

Topics vary.

Fall 2016: 16 C. North Paint/Graphic. 16th Century Northern Paintings and Graphics. Focusing primarily on Germany and the Netherlands during the period of the nascent Reformation, this course will use both paintings and prints to investigate a host of social and cultural changes: to the religious image and its use (including Iconoclasm), to political structures (the Holy Roman Empire and developing nation-states, such as Spain and England), and to innovative artistic themes, particularly the rise of specialized pictorial genres and secular subjects. Major artists will include Hieronymus Bosch, Albrecht Durer and his circle, Lucas Cranach, Hans Holbein (and England), Lucas van Leyden, and Pieter Bruegel. Students will be expected to write a research paper of their choosing after completing a shorter analysis paper on a single work. Open to

qualified undergraduates as well as graduate students.

SM 579. (ARTH584, COML579) Winckelmann. (M) MacLeod.

Prerequisite(s): Upper-level course, assumes some familiarity with German literature and culture.

Celebrity-scholar, literary stylist, cultural monument, pagan hero, self-made man, homosexual codeword, murder victim: despite his humble origins in Prussia, Johann Joachim Winckelmann (1717-68) enjoyed a meteoric career as an archaeologist and art historian in Rome and came to define a century. His developmental view of culture and his celebration of Greek art challenged prevailing ideas and established new paradigms. The seminar will pay careful attention to Winckelmann's most important writings, including "Reflections on the Imitation of the Painting and Sculpture of the Greeks" (1755), the "History of Ancient Art" (1764), and his famous descriptions of statues such as the Belvedere Apollo and Laocoon group, while keeping in mind the context of mid eighteenth century Rome. The lasting impact of Winckelmann's Greek subject matter, his aesthetic theory, and his literary style will be traced, with readings ranging from Johann Wolfgang Goethe, Gotthold Ephraim Lessing, Walter Peter, Rainer Maria Rilke, and Thomas Mann, to the troubling reincarnation of Winckelmann's statues in Leni Riefenstahl's Fascist Olympic films. Finally, Winckelmann's central role in the field of queer studies will be explored, via a consideration of his representation of the male body beautiful and of his own status as a codeword for homosexual desire.

SM 580. (ARTH560, COML582, JWST582, PHIL480) Topics in Aesthetics. (M) Weissberg, MacLeod. Topics vary annually.

SM 581. (COML584, HIST490, JWST490, RELS429) Topics in Jewish-German Culture. (M) Spring 2015: Liliane Weissberg and Steven Weitzman.

Reading and discussion course on selected topics in Jewish history. The instructors are visiting scholars at the Center for Advanced Judaic Studies. Topic and seminar title for Spring 2015: Topics in Jewish Studies: The Origins of Jewish Studies.

Course description for Spring 2015: This is a reading course that grants seminar participants access to Katz Center fellows, some of the best scholars in Judaic studies from around the world. The aim of the

course is to expose students to these scholars and their work, to get to know them as people, learn from them at high level, and understand their approach to the field. Over the course of the spring semester there will be four 3-session modules. Students will meet with 4 different fellows for 3 sessions each. The weekly 90-minute classes will be held at the Katz Center on Wednesdays from 10:30 am - 12 pm, and participants will be encouraged to then stay for lunch and the fellows' seminar which runs from 12:30 - 2:30 pm.

SM 582. (PSCI582, PSCI584) Topics in Political Science. (M)

Topics vary.

SM 602. (LING610) Seminar in German Philology. (M)

Topics vary annually.

SM 603. Seminar in German Literature. (M)

Topics range from the study of individual authors to analyses of major texts.

SM 604. Seminar in German-Jewish Studies. (M) Weissberg.

The course will focus on a specific topic, such as German-Jewish autobiography, writings related to the Jewish emancipation, German-Jewish philosophy and literature, the notion of exile, the Shoah, or contemporary German-Jewish literature. Topics will be announced.

SM 611. (ARCH711, ARCH712) Topics in History and Theory. (M) Staff.

A seminar on advanced topics in architectural design and theory. Topics and instructors will vary.

SM 631. The Age of Storm and Stress. (M) Richter.

An in-depth investigation of the major thinkers and writers of the Sturm and Drang period (1767-1785). Concepts to be considered include: genius, nature, language, violence, irrationality, "Germanness." Works by Herder, the young Goethe and Schiller, Hamann, Gerstenberg, Lenz, Klinger, and Wagner. Emphasis on drama and drama theory.

SM 632. Romanticism. (M) MacLeod, Weissberg.

The course focuses both on the timely impact and the lasting contribution of Romanticism. Lectures cover the philosophical, intellectual, social, and political currents of the age. Authors:

Schlegel, Wackenroder, Tieck, Brentano, Arnim, Novalis, Hoffmann, Kleist, Eichendorff.

SM 633. Classicism. (M) MacLeod, Richter.

An investigation of Weimar Classicism. Drawing on literary and theoretical works by Goethe, Schiller, and others, the seminar will explore concepts such as: aesthetic education; the nature of a "classic;" "autonomous" art; imitation; German responses to Greek antiquity.

SM 635. Goethe's Wilhelm Meister. (M) MacLeod.

Goethe's Wilhelm Meister project spanned several decades and three novels. This seminar will analyze Wilhelm Meisters Lehrjahre (1795), the foundational work in the development of the German Bildungsroman, and Wilhelm Meisters Wanderjahre (1829), an anomalous and eccentric narrative that stretches the boundaries of the novel genre. We will also consider recent critical approaches to the novels, and will discuss in particular Foucauldian and psychoanalytic readings that deal with Bildung as a discourse of desire, formation, and discipline.

SM 636. Literature of Enlightenment. (M) Richter.

German intellectual and literary developments from 1690-1780 in the context of the European enlightenment.

SM 638. Studies in 19th Century Literature. (M) MacLeod, Weissberg.

The course concentrates on issues of "realism" and "representation". Examples will be drawn from nineteenth century German fiction.

SM 641. Drama of the Nineteenth Century. (M) Staff.

A study of the German drama after Goethe and Schiller, with special emphasis on the response of such authors as Kleist, Buechner, Grillparzer, and Hebbel to the classical drama. Discussions of theories and techniques (Freytag, Szondi). Readings also include Nestroy, Hauptmann, and Schnitzler.

SM 642. (COML642) Drama of the Twentieth Century. (M) Jarosinski.

Based on a discussion of the relationship of drama (text) and theater (performance), the course examines the development of realistic and antirealistic currents in modern German drama. From Wedekind and Expressionism to Piscator's political theater, Brecht's epic theater and beyond

(Horvath, Fleisser, Frisch, Duerrenmatt, Handke).

SM 646. Novel of the Twentieth Century. (M) Staff.

A study of the major developments in modern German narrative prose in its international context. Discussions of theories and techniques. Readings of authors such as Kafka, Thomas and Heinrich Mann, Doebelin, Seghers, Boell, and Grass.

SM 648. Modern German Lyrics. (M) MacLeod.

Origins and development of modern German lyrical poetry since the late nineteenth century. Authors such as George, Rilke, Hofmannsthal, Brecht, Benn, Bachmann, Celan will be interpreted in light of the important poetic trends in the twentieth century.

SM 650. (PSCI584) Topics in 20th-C Studies. (M) Staff. Topics vary.

SM 653. Baroque. (M) Wiggin.

Lectures on the concept of "Baroque" in literature and the social and intellectual backgrounds of German Baroque literature; reading and discussion of lyrics, dramas and novel.

SM 654. Renaissance and Reformation. (M) Wiggin.

Major works and authors of the fifteenth and sixteenth centuries. Authors include Luther, Hans Sachs, Wickram, Fischart, and Frischlin.

SM 660. German Literature After 1945: Recording, Remembrance, and Forgetting. (M) Staff.

The seminar examines literary and other artistic works that represent contested parts of the recent German past. Particular attention will be paid to the use made of historical facts in lyric poetry, prose, documentary theater, film, and photography. Through close readings of emblematic literary and theoretical texts, we will consider the widespread notion of the past as a narrative construction, investigate modes of witnessing and testimony, and examine collective and individual repression as well as private and public rituals of remembrance. The material will be considered along with the larger claim of literary discourse, and lyric poetry specifically, as uniquely suited to represent otherwise inaccessible dimensions of experience.

SM 663. Weimar Literature. (M) Staff. Conducted as a research seminar, requiring an oral presentation and lengthy scholarly paper. Primary readings and discussion will be in German.

This course examines the major cultural developments-including Expressionism, New Objectivity, and the European avant-garde-that took place during the tumultuous years of Germany's first experiment in democracy. We will cover a variety of genres (poetry, drama, fiction and non-fiction), while also paying attention to the visual arts, in particular the cinema. The primary aims of the course are: to familiarize students with the rich cultural efflorescence of the period; to examine the legacy of the First World War, the rise of the urban metropolis and their various representations; and to assess the course of history as reflected both in and outside the literary sphere. Authors to be covered include: Vicki Baum, Walter Benjamin, Bertolt Brecht, Alfred Doeblin, Ernst Juenger, Irmgard Keun, Siegfried Kracauer, Erich Maria Remarque, Joseph Roth and Ernst Toller.

SM 664. (HIST620) Topics in European History. (A) Staff.

This course will focus on problems in European political, social, cultural, and economic development from 1750 to the close of the second World War. Readings will be major works in the different fields of European historical scholarship, ranging from family to diplomatic history and covering a wide variety of methodological approaches.

SM 670. (ARTH670, COML670) German Literary Theory & Criticism. (M)

This course will concentrate on major and/or current issues in literary criticism, specific problems, critics, or approaches. Topics will vary; in the past, courses have concentrated on Walter Benjamin's work, and "The Frankfurt School and After."

SM 672. (COML634) Reading Modernity. (M) Jarosinski. Taught in English.

In this course we will examine Modernism and the avant-garde as concepts in literature, theater, and criticism. Both terms in the seminar title will be significant to our work, as we ask not only how to define and debate "modernity" today, but also how to understand various notions of "reading" and cultural analysis that emerge during the period and live on in various ways today. In addition, we will take account of important technological, social, and economic developments marking

modernity, focusing our attention on the ways in which they intersect and interact with cultural production, cultural politics, and perception itself. Readings will include key texts by representative authors, including Benjamin, Kafka, Barthes, Kracauer, Brecht, Adorno, Baudelaire, Eliot, Woolf, and others. The final section of the course is concerned with contemporary debates surrounding Modernism's relation to Fascism and the juxtaposition of Modernism and Postmodernism.

SM 674. (ARTH674, CIMS591, COML674, PHIL583) Topics in Aesthetic Theory. (M) Weissberg, MacLeod, Corrigan.

Topics vary annually.

SM 676. (COML676, GSWS676) Readings in Feminist Theory. (M) Weissberg.

The seminar will provide a survey of recent feminist theories, and a discussion of literary texts focusing on issues of gender, race, and class. The reading list will include essays by French, English, and American theorists as well as novels by Bachmann, Wolf, and Jelinek.

SM 678. Realism: Literature and Theory. (M) Weissberg.

What is "realism"? What does it mean to depict the world as a "realist" writer or artist? This seminar will consider these questions and concentrate on German literature and art of the second half of the nineteenth century. It will focus on writers such as Stifter, Storm, Raabe, and Fontane; but also on Stifter's drawings and paintings, visual artists such as Menzel, and the vogue of historical painting. Finally, the seminar will consider the role of early photography in the development of the notion of "realism." Secondary literature will include studies by Michael Fried, Linda Nochlin, and others.

679. (ARTH662, ARTH761, DTCH601) The title for Spring 2014 is: German Prints & Drawings. (A) Silver. Topics change annually.

Development of the major graphic media and subjects from Schongauer through the sixteenth century. Regular visits to Philadelphia Museum of Art.

SM 680. Studies in Contemporary Music. (M)

Seminar on selected topics in the music of the twentieth century.

SM 691. Travel in German Literature. (M) Wiggins.

During the early modern period (circa 1450-1800) the world became global. A "new world" which challenged "old world" frameworks of knowledge was made to accommodate European travellers. This seminar will devote itself to travel literature (broadly conceived) on the Americas to explore questions historical and actual, literary and theoretical: How did contact initially effect the old world? How did its representation evolve over the early modern period? How can a concept of early modern globalism be useful today?

Weekly seminar topics will be organized around a single primary text (some available only in Van Pelt's Rare Book Room) and an array of secondary materials. Each participant will lead one seminar session, assigning further readings as s/he determines necessary. A one-day seminar within the seminar will allow students to present their work on early modern globalism in a conference-style format. Each contribution will then be re-worked as the final paper. Primary materials may include: Herzog Ernst; Schedel's Weltchronik; Muenster's Cosmographica, travel accounts by Staden and Hutten; Theodor de Bry's American publications; Ortelius, Blaeu, and Jansson maps; Gottfried's American compilation; travel literature by Penn, Pastorius, and Saur; Insel Felsenburg; Humboldt.

DUTCH (DTCH)

101. (DTCH501) Elementary Dutch I. (A) Naborn.

A first semester language course covering the core Dutch grammar and vocabulary with the goal of providing the corner stone for developing overall linguistic proficiency in Dutch.

102. (DTCH502) Elementary Dutch II. (B) Naborn.

Continuation of DTCH 101.

103. (DTCH503) Intermediate Dutch I. (A) Naborn. Prerequisite(s): Dutch 102 or equivalent.

A third semester Dutch language course. The emphasis lies on vocabulary expansion through the use of audio-taped materials and readings. Grammar is expanded beyond the basics and focuses on compound sentences, features of text coherence and idiomatic language usage.

104. (DTCH504) Intermediate Dutch II. (B) Naborn. Prerequisite(s): Dutch 103 or equivalent.

105. (DTCH505) Advanced Dutch I - Cultural History of the Netherlands & Flanders. (M) Naborn. Prerequisite(s): DTCH 104 or equivalent.

This course combines a Dutch language course with a content-based course on Dutch history and literature. Units on linguistic aspects of the language are added as review and refinement. The course also serves as an introduction to writing papers in Dutch.

106. (DTCH506) Advanced Dutch II. (M) Naborn. Prerequisite(s): Dutch 105 or equivalent.

Continuation of Dutch 105. The emphasis lies on literary and other writings from the 20th Century.

230. (ARTH263, CIMS252, COML229, GRMN230) Topics in Dutch Studies. Topic for Spring 2016: Dutch Literature and World Literature. (M) Staff. Taught in English.

Topics vary annually. Topic for Spring 2016 is: "Dutch Literature and World Literature"

SM 330. (COML330, DTCH509, GRMN330, PHIL280) Advanced Topics in Dutch Studies. (M)

Topics vary.

501. (DTCH101) Elementary Dutch I. (A) Naborn.

A first semester Dutch language course covering the core Dutch grammar and vocabulary with the goal of providing the corner stone for developing overall linguistic proficiency in Dutch.

502. (DTCH102) Elementary Dutch II. (B) Naborn.

Continuation of DTCH 501.

503. (DTCH103) Intermediate Dutch I. (A) Naborn. Prerequisite(s): Dutch 502 or equivalent.

A third semester Dutch language course. The emphasis lies on vocabulary expansion through the use of audio-taped materials and readings. Grammar is expanded beyond the basics and focuses on compound sentences, features of text coherence and idiomatic language usage.

504. (DTCH104) Intermediate Dutch II. (B) Naborn.

505. (DTCH105) Advanced Dutch I - Cultural History of the Netherlands & Flanders. (M) Naborn. Prerequisite(s): DTCH 504 or equivalent.

This course combines a Dutch language course with a content-based course on Dutch history and literature. Units on linguistic aspects of the language are added as review and refinement. The course also serves as an introduction to writing papers in Dutch.

506. (DTCH106) Advanced Dutch II. (M) Naborn. Prerequisite(s): Dutch 505 or equivalent.

Continuation of Dutch 505. The emphasis lies on literary and other writings from the 20th Century.

507. Dutch for Reading Knowledge. (M) Naborn. No knowledge of Dutch required.

This course is designed for undergraduates, graduate students and faculty who want to be able to read Dutch. Of particular interest to historians and art historians, people interested in international business and law, religious studies, social policy, and literature. Emphasis on reading skills; structures of grammar and pronunciation are taught as needed. Text selection will be tailored to individual student needs. No knowledge of Dutch required.

SM 509. (DTCH330, GRMN330, PHIL280) Adv Topics Dutch Studies. Staff. Taught in English.

Topics vary annually.

SCANDINAVIAN (SCND)

101. (SCND501) Elementary Swedish I. (I) Williams.

Basic language course stressing grammatical structures and vocabulary, pronunciation, simple conversation and reading of elementary texts. Credit for this course will only be given upon successful completion of SCND 102.

102. (SCND502) Elementary Swedish II. (J) Williams. Prerequisite(s): SCND 101 or equivalent.

Continuation of SCND 101. This is a two-semester course designed to teach beginning skills in Swedish reading comprehension, vocabulary acquisition, listening comprehension, writing, and conversation. Swedish social development will also be examined in relation to its cultural milieu. A trip to Gloria Dei Old Swedes Church in Philadelphia for their Luciafest will be included on a December weekend, a visit to a Swedish film during

the Philadelphia Film festival will take place in late April, and other events as announced.

103. (SCND503) Intermediate Swedish I. (H) Williams. Prerequisite(s): SCND 102 or equivalent.

104. (SCND504) Intermediate Swedish II. (K) Williams. Prerequisite(s): SCND 103 or equivalent.

105. (SCND505) Advanced Swedish I. (M) Staff. Prerequisite(s): SCND 104 or equivalent.

106. (SCND506) Advanced Swedish II. (M) Staff. Prerequisite(s): SCND 105 or equivalent.

501. (SCND101) Elementary Swedish I. (I) Williams.

502. (SCND102) Elementary Swedish II. (J) Williams.

Continuation of SCND 501.

503. (SCND103) Intermediate Swedish I. (H) Williams.

504. (SCND104) Intermediate Swedish II. (K) Williams.

505. (SCND105) Advanced Swedish I. (A) Staff.

506. (SCND106) Advanced Swedish II. (B) Staff.

YIDDISH (YDSH)

101. (JWST031, YDSH501) Beginning Yiddish I. (A) Staff.

The goal of this course is to help beginning students develop skills in Yiddish conversation, reading and writing. Yiddish is the medium of a millennium of Jewish life. We will frequently have reason to refer to the history and culture of Ashkenazie Jewry in studying the language.

102. (JWST032, YDSH502) Beginning Yiddish II. (B) Staff. Prerequisite(s): YDSH 101 or permission of the instructor.

In this course, you can continue to develop basic reading, writing and speaking skills. Discover treasures of Yiddish culture: songs, literature, folklore, and films.

103. (JWST033, YDSH503) Intermediate Yiddish I. (M) Staff. Prerequisite(s): YDSH 102 or permission of the instructor.

The course will continue the first year's survey of Yiddish grammar with an additional emphasis on reading Yiddish

texts. The course will also develop conversational skills in Yiddish.

104. (JWST034, YDSH504) Intermediate Yiddish II. (M) Staff.

Prerequisite(s): YDSH 103 or permission of the instructor.

Continuation of GRMN 403. Emphasis on reading texts and conversation.

108. (JWST438, YDSH508) Readings in Modern Yiddish Literature. (M)

Botwinik. Prerequisite(s): Reading knowledge of Yiddish.

This course will survey modern Yiddish literature through readings of Yiddish prose and poetry from the end of the 19th century through the late 20th century. The class will be conducted in both Yiddish and English. Reading knowledge of Yiddish is required, although some texts will be available in English translation.

501. (JWST031, YDSH101) Beginning Yiddish I. (A) Staff.

The goal of this course is to help beginning students develop skills in Yiddish conversation, reading and writing. Yiddish is the medium of a millennium of Jewish life. We will frequently have reason to refer to the history and culture of Ashkenazie Jewry in studying the language.

502. (JWST032, YDSH102) Beginning Yiddish II. (B) Staff.

Prerequisite(s): YDSH 101 or permission of the instructor.

503. (JWST033, YDSH103) Intermediate Yiddish I. (M) Staff.

Prerequisite(s): YDSH 102 or permission of the instructor.

The course will continue the first year's survey of Yiddish grammar with an additional emphasis on reading Yiddish texts. The course will also develop conversational skills in Yiddish.

504. (JWST034, YDSH104) Intermediate Yiddish II. (M) Staff.

Prerequisite(s): YDSH 103 or permission of the instructor.

Continuation of GRMN 403. Emphasis on reading texts and conversation.

508. (JWST438, YDSH108) Readings in Modern Yiddish Literature. (M)

Hellerstein. Prerequisite(s): Reading knowledge of Yiddish.

This course will survey modern Yiddish literature through readings of Yiddish prose and poetry from the end of the 19th century through the late 20th century. The class will be conducted in both Yiddish and English. Reading knowledge of Yiddish is required, although some texts will be available in English translation. Authors include I.L. Peretz, Isaac Bashevis Singer, Moyshe-Leyb Halpern, and Kadya Molodowsky.

GOVERNMENT ADMINISTRATION (AS) {GAFL}

514. Encouraging Economic Growth.

Online course fee of \$150.

This course is a hybrid and meets on-campus four times during the semester on the following Fridays and Saturdays: Sep 11, 12; Oct 16, 17; Nov 13, 14; Dec 4, 5

524. Planning for Performance. (L)

Bury, Betsy. Meets on campus 3 times per semester. On-campus meetings are as follows for Summer 2015 11-week session: May 8-9, June 12-13, and July 10-11. Online course fee of \$150.

Students will learn the basics of strategic planning and performance management, the argument made for and against using these tools in the public sector context, and, ultimately, to develop their own philosophy about how to affect organizational change.

526. Municipal Bonds. (A) Steven Genyk.

The course provides a comprehensive overview of the \$3.7 trillion municipal bond market, with a focus on public finance investment banking; capital project financing for state and local governments including water, sewer, mass transit and road projects, and non-profit financing for educational and healthcare institutions; the legal and regulatory framework governing the municipal bonds market; rating agency analysis; quantitative modeling; and investor perspectives.

529. Nonprofit Financial Management. (B) Rosenzweig, Janet.

The course is designed to provide the student with an understanding of the primary financial management issues and decisions that confront senior management in nonprofits and government. Students will examine financial analysis techniques from both a practical and strategic perspective as they examine operating and capital decisions. The objective of the course is to allow the student to understand how managers integrate the various discrete financial decisions within a broader framework that allows them to analyze, develop and execute a coherent overall financial strategy.

SM 531. Data Science for Public Policy. (A) Nelson Lim.

534. Infrastructure Investment and Economic Growth: Why, How, and When. (B) Angelides.

Infrastructure is widely acknowledged to be critical for economic success, and infrastructure investments are promoted as leading to economic growth, either at the local or national level. Yet, investments in telecommunications, transportation, energy, or other infrastructure do not always yield the hoped public benefit. This course will help answer the question: Under what circumstances does infrastructure investment contribute to economic growth, and how do we know? Because government resources are limited, advocates often must be creative to find sufficient funding to get desirable projects completed. This course will also help answer the question: How do we pay for the infrastructure projects we want to build? The course will illustrate approaches to answering these questions using case studies of past and proposed investments.

542. (CPLN642) DOWNTOWN DEVELOPMENT. (A)

SM 546. Social Enterprise Models and Social Impact Locally and Globally. (B) Hansen-Turton, Tine; Torres, Nicholas.

If you believe in finding innovative ways to make a difference and solve social issues locally and globally, you will benefit from the Social Enterprise and Impact Locally and Globally Course (Social Enterprise). Social Enterprise Enterprise is designed for those who have a practitioner's interest in the development, leadership, and management of the evolving nonprofit sector and their intersection with the socially conscious private sector and government. The course takes the student through the process of developing a mock social enterprise including idea exploration, testing and plan execution and provides the student with essential strategies and tools to conduct in-depth analysis of a social enterprise leading to their application to a regional social enterprise.

This course fulfills an elective for the MPA and the Certificate in Nonprofit Administration.

548. Grant Writing. Colleen Terrell. In Summer 2016 ONLY This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional \$150 online course fee.

This course will provide students with the role of the foundation in philanthropy, what it does, how it does it, and what you need to know to be both an effective foundation manager and foundation grant seeker. From the foundation side, the course will include strategic planning, assessment of project results, and the responsibilities of the foundation grant program officer. From the grant seeker side, it will include identifying the appropriate foundations, making the connection to the foundation, grant writing, and relationship management.

Summer 2016 On-Campus Meetings: 9:30am-1:00pm Fridays and Saturdays May 20-1, June 24-5, and July 22-3

549. Leading Nonprofits.

This course will provide an analysis of the nonprofit sector in relation to public and for-profit organizations, focusing on building the six core organizational competencies that are essential to a successful nonprofit.

SM 555. (DYNM655) Using the Political Process to Effect Organizational Change. (B)

Prerequisite(s): Course permits must be requested at <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

599. INDEPENDENT STUDY.

640. Program Evaluations and Data Analysis. (B) Lim, Nelson. This course is a requirement for MPA full-time students who started in Fall 2015 or later. It is an elective for MPA full-time students who started Fall 2014 or earlier.

714. ENCOURAGING ECON GROWTH.

733. Public Management (MPA Executive Section). (B) Jones, Darrell D. This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional \$150 online course fee.

Overview--Public managers must have technical expertise in planning, staffing, and budgeting; however, technical skills alone are not sufficient to become an effective public manager. You must understand the socio-political context of your organization and your success will be dependent on your ability to analyze policy options and persuade stakeholders and supervisors, through effective communications, to pursue the policy options you recommend. Public managers in the 21st century must also understand the ever increasing diversity of their constituents and stakeholders. Economic globalization and international migration continue to increase the racial and ethnic diversity of our workforce. Diversity begets complexity and tension. Effective public managers must learn to lead inclusive organizations that leverage diversity and defuse tensions among heterogeneous constituents and stakeholders. Learning objectives The goal for this class is to expand your knowledge about public management, both as a profession and as a field of study.

At the end of this course, you will understand key competencies of an effective public manager, demonstrate your understanding through class discussions, weekly reading notes, a group case study analysis and presentation, and a policy memo that analyzes management dilemmas and proposes responses. To accomplish this goal, we will go beyond passive learning from classroom lectures. We will have a few guest speakers whose expertise will complement readings. We expect you to be prepared and to participate in classroom discussions, engage practicing public administrators and accomplished researchers in seminars/workshops, and learn to draft policy briefs and policy memos completing scenario-based assignments.

This course will meet in-person from 9:30am-1:00pm on the following Fridays and Saturdays: September 9-10, October 14-15, November 18-19, December 2-3. This course will meet virtually Mondays 7:30-8:30pm.

797. CAPSTONE FIELDWORK.

SM 799. MPA Capstone. (C) Nelson Lim--MPA Full-Time Format; Claire Robertson-Kraft--MPA Exec Format. This course has two parts--the seminar, which has a regularly scheduled meeting, and the 'independent study,' which does not have a meeting pattern but is a means of assigning a capstone advisor individually to each enrolled student. Students taking the capstone should put in a request for the seminar and the independent study placeholder. Individual independent study sections will be assigned after the start of the term by the department. Any questions can be directed to Kathryn Brossa at brossak@sas.upenn.edu NOTE: Capstone offered in the Summer term is a "hybrid" course.

The completion of a capstone projects is one of the academic requirements for the Master of Public Administration (MPA) at the University of Pennsylvania's Fels Institute of Government. The capstone project represents a way for graduate students to apply their multi-disciplinary learning from the program to a specific public administration challenge(s) or issue(s). To successfully complete a capstone project, a student must receive a passing grade for his or her capstone paper and associated briefing.

The student's capstone paper resembles a policy memo that an administrative staff writes to decision makers and stakeholders. The paper integrates and deepens the student's learning from the program. More importantly, the capstone paper provides a way for a student to bring her/his learning and knowledge from the program back into her/his chosen career. The research focus should be one that is of great interest to the student as well as one from which a potential organization will benefit.

Summer 2016 On-Campus Meetings: 2:00pm-5:30pm Fridays and Saturdays May 20-1, June 24-5, and July 22-3

This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional \$150 online course fee.

Undergraduate Courses

SM 138. (PSCI138) Policymaking in the US. (M) Martinez.

This course is an opportunity for students to combine the major theoretical perspectives on the policy process with the practical application to current policy issues. Students will gain theoretical tools to

explain policy change, a comprehensive understanding of the actors that influence policymaking and politics, and experience writing policy documents. The course is designed to complement an internship in the public policy arena, providing context and background that will enrich the internship experience. The course can be taken either before or after completion of an internship.

641. Program Evaluations & Data Analysis--Hybrid Format. (L) John Roman.

This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional \$150 online course fee.

Summer 2016 On-Campus Meetings: 2:00pm-5:30pm Fridays and Saturdays May 20-1, June 24-5, and July 22-3

Core Courses

589. Policy Development. (A) Martinez.

This course examines the policy development process including: the interaction of branches of government; policy analysis; information; constituencies; and management of a policy development office. The objective of this course is to provide an understanding of the development of government policy, both at the macro level and from the viewpoint of persons who are in supporting roles to the major actors in the process. The formula employed to achieve this objective consists of a combination of readings, lectures, discussions, and activities that are designed to blend conceptual and practical skills.

612. Quantitative Methods for Policy Analysis. (B) Robertson-Kraft, Claire.

This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. Weekends vary by term. Please read the course description for further information.

This course will help students learn how to make evidence-based decisions in a public sector context. The course will introduce important data analysis skills and help students evaluate the quality of studies undertaken to measure the impact of public policies and programs.

On-campus meetings for Spring 2016 will be on Fridays from 9:30am-1pm on Jan. 15, Feb. 12, Mar. 18, and Apr. 15 and on Saturdays from 2-5:30pm on Jan 16,

Feb. 13, Mar. 19, and Apr. 16. The class will meet online weekly on Mondays 6-7pm.

621. Public Economics. (A) Sieg, Holger Wolfgang.

This course provides students with the knowledge required to understand government operations in relation to the market economy. In theory of supply and demand, students explore the pricing mechanism, price elasticity, and the effects of price controls on markets. Efficiency is examined in connection with competition and again in connection with equity, and market failure is considered as a reason for government intervention. Cost-benefit analysis is examined in the context of selecting among public investment alternatives. The course also assists students in addressing issues connected with local public goods and economic development.

631. Policy Making & Public Institutions. (B) Meredith, Marc. This course is a core requirement for the full-time MPA program at the Fels Institute of Government. Permits will not be issued to non-Fels students.

This course introduces students to the theories and practice of the policy-making process. There are four primary learning objectives. First, understanding how the structure of political institutions matter for the policies that they produce. Second, recognizing the constraints that policy makers face when making decisions on behalf of the public. Third, identifying the strategies that can be used to overcome these constraints. Fourth, knowing the toolbox that is available to participants in the policy-making process to help get their preferred strategies implemented. While our focus will primarily be on American political institutions, many of the ideas and topics discussed in the class apply broadly to other democratic systems of government. The class will be a mix of lecture and cases. Cases are on a diverse set of policy topics, with a goal of illustrating broad themes about the policy-making process rather than the specifics of certain policy areas.

L/L 703. (CRIM535) Statistics for Public Leadership. (A) Owens/Perrins.

This course presents students with statistical tools for government and public policy evaluation. The foundations of statistical description and inference are emphasized, and the course builds the skills students need to become critical consumers of statistical information. An integrated laboratory component provides training in the use of general statistical software.

SM 732. Public Management. (D) DiIulio/Mulhern.

This core MPA course is intended to help each student to learn more than he or she already knows about public management both as a profession and as a field of academic study and to enjoy the company of supportive peers, instructors, and special guests as he or she contemplates a post-MPA career in governance.

This course satisfies a core requirement in the Master of Public Administration full-time program.

735. Performance Management. (D) Botwinik/Golda.

How can leaders manage performance and make decisions that lead to desired outcomes such as less crime, better education, or lower unit costs? This course examines the various ways that public sector organizations can use data to plan strategically, manage risk, and monitor performance. Students will learn about the theory behind performance measurement and risk management, as well as the benefits, challenges, and limitations of performance management.

Representative Electives

502. Public Communications. (S) Benedict (Fall & Spring); Besnoff (Summer). This course has seats reserved for Fels' students and gives priority to grad students. Post-bacc students, contact Kathryn Brossa (brossak@sas.upenn.edu).

Successful leaders must be able to convey their integrity and their ideas, their vision and their values clearly and convincingly in public settings. By analyzing great political speeches and affording students the opportunity to prepare and deliver different types of speeches, this course teaches the fundamentals of persuasive public speaking while encouraging students to develop their own voice. This is a performance course. Students will gain skill and confidence in their speech writing and public speaking skills through practice, peer feedback, and extensive professional coaching. Class lectures and discussions will focus on persuasive strategies and techniques for handling community meetings, Q and A sessions, and interactions with the media.

503. Speech Writing. (B) Benedict. Leaders need to know how to express themselves with clarity and conviction--in a meeting with five people or in a public forum with five hundred. Whether you're writing for yourself or someone else, this course will provide the basics of speech

writing and give you the opportunity to write, revise and deliver a variety of different speeches. You will also be given the opportunity to answer audience questions after your speeches. The emphasis will be on preparing and giving longer speeches where a prepared text or speaking notes would be advisable. In this performance course, you will examine and learn from great speeches--from the classics down to the present. Your speeches will be videotaped and you will receive feedback from both the instructor as well as your peers.

515. Public Finance Investment Banking. (B) Matteo.

This course examines the field of public finance in theory and in practice. The purpose of the course is to provide a detailed understanding of the many facets of and applications of finance in the public sector with a focus on public finance investment banking. The course will provide students with a broad-based and technical overview of public finance and municipal bonds as well as a thorough understanding of the business of public finance.

SM 517. Quantitative Tools for Consulting. Lee Young Huang.

The purpose of the course is to study the theory and application of certain, key quantitative methods utilized in financial and fiscal decision-making in state and local governments: defining and measuring efficiency and equity; statistical analysis, multivariate analysis, linear and multipole regression; inter-temporal decision-making; and cost-benefit analysis. Primary emphasis will be on understanding the context and quantitative basics of these methods to prepare students for effective careers in state and local governments. Each student should have a basic understanding of market economics, the roles of government in our market economy, accounting/budgeting basics, and the Philadelphia metro area economy and government.

520. Marketing & Fundraising for Non-Profit Organizations. (A) Hugg.

This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional \$150 online course fee.

Fundraising and marketing are complementary tools for building revenue streams and fulfilling the program

objectives of nearly every nonprofit organization. This course develops students' ability to market a nonprofit to mission recipients and prospective donors and to solicit funds from individuals and organizations.

Through lectures, readings, discussions, and assignments, students are actively engaged in learning how to help an organization achieve its mission and objectives. This includes but is not limited to the assessing an organization's marketing and fundraising capabilities; identifying, segmenting, and creating relationships with target markets and donors; building infrastructure to properly seek and steward gifts; using technology to fulfill marketing and fundraising objectives; and focusing on fundraising and marketing methods such as social media, direct response, events, major gifts, planned giving, and others.

This course emphasizes applications. Each student will complete a fundraising and/or marketing plan for a specific organization of their choosing, the structure of which will be derived from the term's assignments.

This course will meet in-person from 2:00-5:30pm on the following Fridays and Saturdays: September 9-10, October 14-15, November 18-19, December 2-3. This course will meet virtually Wednesdays 9:00-10:00pm.

521. Advanced Public Management. (B) Lim.

TBA

This course will meet in-person from 2:00-5:30pm on the following Fridays and Saturdays: September 9-10, October 14-15, November 18-19, December 2-3. This course will meet virtually Tuesdays 6:45-7:45pm.

528. Marketing for Nonprofit Organizations. (A) Hugg.

This course provides students with the concepts and tools to help nonprofit and government organizations market their programs and services. The course emphasizes applications, and students will complete a marketing plan during the course for a nonprofit organization or government agency of their choice. Students will learn how to conduct competitive analyses, benchmarking, market segmentation and client needs; explore opportunities for social research on client needs; explore opportunities for social entrepreneurship and product development; and design effective Web and direct marketing tactics as part of an overall promotion and packaging strategy.

SM 530. (PSCI413) Evidence Based Policies of Economic and Political Development. (B)

This class provides a "hands-on" introduction to the promises and limitations of using Randomized Control Trials (RCTs) to inform policy makers, practitioners, and academics of the conditions under which policies likely would have a positive effect on economic and political outcomes, in the context of international development.

This course has three parts: the first is devoted to understanding the "nuts and bolts" of running field experiments / RCTs in developing countries. In part, we will be reading Glennester and Takavarasha's *Running Randomized Evaluations: A Practical Guide*. In addition, we will discuss core behavioral concepts from both behavioral economics and social psychology (prospect theory). The second part of the course will be devoted to demonstrating how schools have used RCTs to inform core policy debates (e.g. What are some effective ways to reduce corruption? How can we improve the performance of frontline service providers? How can politicians be more responsive to their constituents?) In the third part, students will be presenting their own research proposals, explicitly designed to address either a core policy question in the developing world or--for those interested--in the USA. Here students will have an opportunity to partner with the Social and Behavioral Sciences Team (<https://sbst.gov>), which is under the National Science and Technology Council.

532. (CRIM402, CRIM602) Urban Government in Action. (A) Kenney.

This class explores how city administrators and legislatures have addressed the critical issues facing urban America today, including fighting urban blight and transforming neighborhoods, public school funding, public financing of sports stadiums, reducing the tax burden, public health issues like smoking bans, legislative redistricting, crime and safety issues, campaign finance reform, economic development issues like tax increment financing, race relations, welfare reform, public transportation, and how to reverse job and population losses. The goal is to place in context the various ways that elected officials approach complex issues, towards a more realistic understanding of how to influence a proposal as it works its way through the process towards implementation.

551. (WSTD551) Lobbying. (M)

In a system of representative government, organizations and individuals with interests at stake often seek the support of a government relations professional. This course addresses government relations from the varying perspectives of the current or aspiring professional, the client, and the government official. It is designed to provide the students with an introduction to government affairs and lobbying at the local, state, and federal levels of government and to illustrate how lobbying and the lobbyists shape and affect public policy. The course is not designed as a how-to in lobbying, but, rather, it is designed to expose students to lobbying and, more importantly, the lobbying process. To that end, students will draw on many disciplines, such as psychology, law, history, political science, urban affairs, economics, foreign policy, domestic policy, and others, to understand the complex mosaic of the lobbying and legislative processes.

561. Media Relations. (C) Frank Igwe.

This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional \$150 online course fee.

This course is designed to help you better understand the role and practice of media relations and messaging in corporate, non-profit, and government organizations in this new media era. You will learn how to research media and reporters, develop messages, build strategic media plans, generate media coverage, serve as spokespeople, handle crisis situations, and use new media strategies. You will hear from public relations professionals on such topics as working with reporters, developing PR campaigns, and creating effective web outreach programs. Class discussions, reading assignments, research and writing projects, group projects, and case studies offer an engaging and interactive learning environment to expand and apply your knowledge of media relations and messaging.

Summer 2016 On-Campus Meetings: 9:30am-1:00pm Fridays and Saturdays May 20-1, June 24-5, and July 22-3

569. (CPLN625, URBS451) The Politics of Housing and Urban Development. (A) Kromer.

This course offers an exploration of how legislative action, government policymaking, and citizen advocacy

influence plans for the investment of public capital in distressed urban neighborhoods. Course topics this semester will include an evaluation of the results of City of Philadelphia development policies under the administration of former Mayor Michael A. Nutter, as well as consideration of plans being undertaken by the administration of Mayor James F. Kenney, who took office in January. The course will also include an assessment of a large-scale property acquisition and development strategy being implemented by the Philadelphia Housing Authority in North Philadelphia and a review of recent and current reinvestment proposals for Camden's waterfront and downtown-area neighborhoods.

642. (CPLN642) Downtown Development. (A) Levy.

The course will provide an overview of the changing role of downtowns and commercial centers, how and why they have evolved, diversified and been redeveloped and who are the various public and private actors that are helping them reposition themselves in a new regional and global context. There will be a strong focus on implementation, on how things get done, on the role of business improvement districts, not-for-profit development corporations and local government in the United States, Canada and a few international cities.

651. Public Financial Management I & II: Budgeting & Accounting. (B)

Olanipekun-Lewis, Folasade & Alleva, Jennifer. This course has two units of 7 weeks each. Students must register for both sections of the course.

This course will introduce students to the fundamentals of budgeting and accounting for government and nonprofit managers. The course is divided into two units. The first unit covers budgeting concepts and skills, culminating in a real-world budgeting simulation. The second unit will cover basic accounting principles and financial statement literacy, so that students are able to evaluate the fiscal health of public sector organizations. The unit culminates with a final project requiring students to analyze the City of Philadelphia's CAFR (Comprehensive Annual Financial Report).

The first unit runs from January 15 through February 26. The second unit runs from February 29 through April 27 with no class the week of March 9 in observance of Spring break.

This course satisfies a core requirement in the Master of Public Administration, Certificate in Public

Finance, and Certificate in Economic Development and Growth.

652. Financial Management of Public and Nonprofit Organizations. (B)

Cho, Michelle. This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional \$150 online course fee.

This course provides students with a foundation in public and nonprofit financial management vocabulary, analytic tools, and analysis placed within the context of decision challenges that confront managers and leaders of public and nonprofit organizations. This is not an accounting course; students will not be creating financial reports. Instead, the goal is to allow students to interpret, understand, and effectively analyze financial information and reports used to make decisions in public and nonprofit organizations. Ultimately, the course attempts to allow the student to understand how various discrete financial information and financial decisions are integrated within a broader framework that is used to develop and execute a coherent financial strategy.

On-campus meetings for Spring 2016 are from 2:00pm-5:30pm on the following days: January 15, 16; February 12, 13; March 18, 19; and April 15,16.

710. Negotiations. (C)

This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. Weekends vary by term. There is a \$150 online course fee.

This course will meet in-person from 9:30am-1:00pm on the following Fridays and Saturdays: September 9-10, October 14-15, November 18-19, December 2-3. This course will meet virtually Tuesdays 8:00-9:00pm.

713. Entrepreneurship and Economic Development. (B)

Thornburgh.

This course analyzes and challenges strategies for encouraging economic growth nationally and in states and metropolitan areas, with the goal of helping students become effective practitioners of the art. After reviewing key concepts and context, the course will ask students to evaluate and make choices about economic strategies and investments in a political context.

SM 719. Advanced Budgeting. (A)

Nadol and Westerman.

The course will build on the fundamentals taught in the introductory budgeting unit to help build students' competence in budgetary analysis. Using detailed data from a major city as a course-long case study, and incorporating excel skill-building exercises, students will develop hands-on understanding of budgets by working through such factors as economic drivers of fiscal performance, revenue analysis and forecasting, including tax policy considerations; expenditure analysis and projection, with an emphasis on workforce costs; and capital budgeting and financing. Students will also be introduced to key fiscal policies, budget monitoring and performance measurement, and the development of effective budget communications for various audiences.

720. Critical Issues in Public Finance. (C)

This is a "hybrid" course, with synchronous, online meetings and once-monthly, on-campus meetings at the Fels Institute of Government in Philadelphia, PA. On-campus meetings vary by term. Please read the description for dates and times. Also, please note there is an additional \$150 online course fee.

This course will consider contemporary issues affecting the fiscal state of local governments. Covered will be issues that have distressed municipalities; the policies/initiatives that seek to rectify such, including: privatization/public private partnerships, reformation of municipal pensions, sustainable education funding alternatives; and tax policies aimed at promoting economic growth. Students will be assigned to a team, which will identify and provide a solution for an issue or issues plaguing a fictional government. Each team will prepare a written report and make a presentation, all of which will constitute the final project. Assignments will serve as the building blocks for the final written product and presentation developed by each team.

The class is divided into four modules. The first module will take a historical look at events behind fiscal distress in municipalities and then explore current day drivers that are causing the same today. Modules two, three, and four will examine some of the tools that have been used successfully, or otherwise, to remediate the drivers of fiscal distress. In each module, case studies will be used to further analyze the particular fiscal challenge of a municipality. Written assignments will be based on case studies.

On-campus meetings for Spring 2016 will be from 2-5:30pm on Friday and

Saturday on these dates: January 15, 16; February 12, 13; March 18, 19; and April 15, 16. The course will meet in DRL 3W2.

727. Managing Public Funds: The Treasury Function. (A) Olanipekun-Lewis.

This course will focus on the theory and practice of managing public sector investment assets. The course will examine cash management, pension fund management, project and construction fund investment vehicles, longer-term asset management and other aspects of treasury management.

761. Lobbying. (A) Weinberg and Nixon.

In a system of representative government, organizations and individuals with interests

at stake often seek the support of a government relations professional. This course addresses government relations from the varying perspectives of the current or aspiring professional, the client, and the government official. It is designed to provide the students with an introduction to government affairs and lobbying at the local, state and federal levels of government and to illustrate how lobbying and the lobbyists shape and affect public policy. The course is not designed as a how-to in lobbying, but rather it is designed to expose students to lobbying and more importantly, the lobbying process. To that end, students will draw on many disciplines such as psychology, law, history, political science, urban affairs, economics, foreign policy, domestic policy and others, to

understand the complex mosaic of the lobbying and legislative process.

792. Contracting for Public Services. (B) Nadol and Neiderman.

This course examines how different strategies of ownership affect the performance of programs. This course explores the different forms of privatization, including asset sales, deregulation, and public sector contracting; ownership and managerial behavior; state-owned enterprises and mixed-ownership enterprises; US and overseas experience; and techniques and politics of privatization.

**GRADUATE ARTS &
SCIENCES
(AS) {GAS}**

643. BRYN MAWR EXCHANGE.
701. BRYN MAWR EXCHANGE.
560. COLUMBIA EXCHANGE.
603. COLUMBIA EXCHANGE.
695. COLUMBIA EXCHANGE.
635. U. DELAWARE EXCHANGE.

600. English Language Skills. (A)
Theodoropoulos.
For prospective International Teaching Assistants seeking English fluency certification, this course emphasizes the development of oral academic discourse skills and practices prominent features of spoken English that promote successful communication in academic settings, including intelligibility, active listening skills, grammar.
519. PRINCETON EXCHANGE.
520. PRINCETON EXCHANGE.
522. PRINCETON EXCHANGE.
538. PRINCETON EXCHANGE.

543. PRINCETON EXCHANGE.
548. PRINCETON EXCHANGE.
562. PRINCETON EXCHANGE.
604. PRINCETON EXCHANGE.
698. PRINCETON EXCHANGE.
534. STANFORD EXCHANGE.
560. STANFORD EXCHANGE.
596. STANFORD EXCHANGE.
598. STANFORD EXCHANGE.
901. INTRO TO ADVANCED ENDO.

HEALTH AND SOCIETIES (AS) {HSOC}

L/R 001. (STSC001) Emergence of Modern Science. (A) May be counted toward the Hum/SocSci or NatSci/Math Sectors. Class of 2010. Adams.

During the last 500 years, science has emerged as a central and transformative force that continues to reshape everyday life in countless ways. This introductory course will survey the emergence of the scientific world view from the Renaissance through the end of the 20th century. By focusing on the life, work and cultural contexts of those who created modern science, we will explore their core ideas and techniques, where they came from, what problems they solved, what made them controversial and exciting and how they related to contemporary religious beliefs, politics, art, literature, and music. The course is organized chronologically and thematically. In short, this is a "Western Civ" course with a difference, open to students at all levels.

L/R 002. (HIST036, STSC002) Medicine in History. (A) History & Tradition Sector. All classes. Barnes.

This course surveys the history of medical knowledge and practice from antiquity to the present. No prior background in the history of science or medicine is required. The course has two principal goals: (1) to give students a practical introduction to the fundamental questions and methods of the history of medicine, and (2) to foster a nuanced, critical understanding of medicine's complex role in contemporary society. The course takes a broadly chronological approach, blending the perspectives of the patient, the physician, and society as a whole--recognizing that medicine has always aspired to "treat" healthy people as well as the sick and infirm. Rather than history "from the top down" or "from the bottom up," this course sets its sights on history from the inside out. This means, first, that medical knowledge and practice is understood through the personal experiences of patients and caregivers. It also means that lectures and discussions will take the long-discredited knowledge and treatments of the past seriously, on their own terms, rather than judging them by today's standards. Required readings consist largely of primary sources, from elite medical texts to patient diaries. Short research assignments will encourage students to adopt the perspectives of a range of actors in various historical eras.

003. (STSC003) Technology and Society. (B) Society Sector. All classes. Staff.

"We shape our technologies; thereafter they shape us." This course surveys the ways in which technology has shaped our societies and our relations with the natural world. We will examine the origins and impact of technical developments throughout human history and across the globe--from stone tools, agriculture and cave painting to ancient cities, metallurgy and aqueducts; from windmills, cathedrals, steam engines and electricity to atom bombs, the internet and genetic engineering. We will pay attention to the aesthetic, religious and mythical dimensions of technological change and consider the circumstances in which innovations emerge and their effects on social order, on the environment and on the ways humans understand themselves.

L/R 010. Health and Societies. (B) Humanities & Social Science Sector. Class of 2010 & beyond. McKay, R. Also fulfills General Requirement in Science Studies for Class of 2009 and prior.

"Two fundamental questions structure this course: (1) What kinds of factors shape population health in various parts of the world in the twenty-first century? and (2) What kinds of intellectual tools are necessary in order to study global health? Grasping the deeper "socialness" of health and health care in a variety of cultures and time periods requires a sustained interdisciplinary approach. "Health and Societies: Global Perspectives" blends the methods of history, sociology, anthropology and related disciplines in order to expose the layers of causation and meaning beneath what we often see as straightforward, common-sense responses to biological phenomena. Assignments throughout the semester provide a hands-on introduction to research strategies in these core disciplines. The course culminates with pragmatic, student-led assessments of global health policies designed to identify creative and cost effective solutions to the most persistent health problems in the world today."

SM 022. (STSC022) Race, Genetics and Social Policy. (M) Staff.

What box do you check if a form asks you to identify your race? Do you fall between boxes? Do you check two or three? Do you refuse to answer the question even if you can check one box? "What is your race?" is a loaded question in American society, because racial identities have social, political and economic ramifications. This course is designed to examine the meanings of race, in particular

the ones that have been thought to have a scientific or biological foundation. We will examine the origins of these questions of race from the end of the 19th century to the present, and the way that the genetic science of race has shaped social policy and has changed over time. Most of our focus will be on the United States, but we will also set these questions in a transnational perspective.

SM 025. (HIST025, RELS116, STSC028) Western Science, Magic and Religion 1600 to the present. (C) History & Tradition Sector. All classes. Kuklick.

Throughout human history, the relationships of science and religion, as well as of science and magic, have been complex and often surprising. This course will cover topics ranging from the links between magic and science in the seventeenth century to contemporary anti-science movements.

SM 032. (STSC032) Risky Business. (M)

This freshman seminar on medical decision-making will focus on personal and public medical and health decisions - how we make them and how they can be improved. While in theory medical decisions are in large part both informed and constrained by scientific evidence, in reality they are much more complex. Drawing upon a range of information sources including textbooks, original research and popular media, the seminar will introduce students to the challenges of making personal and public (i.e., policy) decisions under conditions of inherent uncertainty and resources constraints and how research and scholarship can inform and improve decision making processes and decisions. Using a variety of highly engaging approaches (in-class discussions, examination of primary research, popular media, simple experiments, expert panel debates) this highly interactive seminar will provide students a strong introductory foundation to medical decision making specifically and, by extension to decision making under conditions of uncertainty more generally. The seminar will take a multi-disciplinary perspective, drawing upon knowledge developed from psychology, sociology, economics, insurance and risk management, statistical inference, neuroscience, operations research, communications, law, ethics and political science.

SM 039. The Healer's Tale: Negotiating Trust in Modern America. (M) Tighe.

Dramatic, deadly, and terrifying in their brutal immediacy, outbreaks of epidemic disease have devastated and transformed human societies since the beginnings of recorded history. From the Black Death to cholera to AIDS, epidemics have wrought profound demographic, social, political and cultural change all over the world. Such is the power of their mystery and horror that while thousands die everyday in the United States from mundane illnesses such as heart disease or lung cancer, panic grips the land at the thought of a handful of deaths from seemingly exotic afflictions such as West Nile encephalitis and "weaponized" anthrax. Through a detailed analysis of specific historical outbreaks, this seminar will investigate the causes and effects of epidemic disease, and will examine the ways in which different societies in different eras have responded in times of crisis.

SM 050. Mad, Bad and Sad: The Construction, Prevention and Treatment of Mental Illness. (M) Mandell.

This freshmen seminar is designed to introduce students to research and debate surrounding the concept of mental disorder and to help them to think critically about these disorders' biological and social construction. In addition to learning about the presentation and treatment of mental illness, they will also be introduced to concepts in epidemiology, psychology, psychiatry and health services research, and learn about the history of the science surrounding psychiatry and how different beliefs at different times have influenced policy, systems, services and treatment.

SM 052. Autism Epidemic. (M) Mandell.

The CDC estimates that 1 in 150 children have autism. Three decades ago, this number was 1 in 5,000. The communities in which these children are identified in ever increasing numbers are ill prepared to meet their needs. Scientists have struggled to understand the causes of this disorder, its treatment, and why it appears to be rapidly increasing. Families, policy makers, schools and the healthcare system have argued bitterly in the press and in the courts about the best way to care for these children and the best ways to pay for this care. In this class, we will use autism as a case study to understand how psychiatric and developmental disorders of childhood come to be defined over time, their biological and environmental causes identified, and

treatments developed. We will also discuss the identification and care of these children in the broader context of the American education and healthcare systems.

SM 059. Medical Missionaries and Partners. (M) Bream.

Global health is an increasingly popular goal for many modern leaders. Yet critics see evidence of a new imperialism in various aid programs. We will examine the evolution over time and place of programs designed to improve the health of underserved populations. Traditionally categorized as public health programs or efforts to achieve a just society, these programs often produce results that are inconsistent with these goals. We will examine the benefits and risks of past programs and conceptualize future partnerships on both a local and global stage. Students should expect to question broadly held beliefs about the common good and service. Ultimately we will examine the concept of partnership and the notion of community health, in which ownership, control, and goals are shared between outside expert and inside community member.

L/R 100. (SOC100) Introduction to Sociological Research. (C) Armenta, Harknett, Koppel, Park, Smith, Wilde.

One of the defining characteristics of all the social sciences, including sociology, is a commitment to empirical research as the basis for knowledge. This course is designed to provide you with a basic understanding of research in the social sciences and to enable you to think like a social scientist. Through this course students will learn both the logic of sociological inquiry and the nuts and bolts of doing empirical research. We will focus on such issues as the relationship between theory and research, the logic of research design, issues of conceptualization and measurement, basic methods of data collection, and what social scientists do with data once they have collected them. By the end of the course, students will have completed sociological research projects utilizing different empirical methods, be able to evaluate the strengths and weaknesses of various research strategies, and read (with understanding) published accounts of social science research.

L/R 101. (PHIL072, PPE 072) Biomedical Ethics. (M) Society Sector. All classes. Martin.

A survey of moral problems in medicine and biomedical research. Problems discussed include: genetic manipulation, informed consent, infanticide, abortion,

euthanasia, and the allocation of medical resources. Moral theory is presented with the aim of enabling students to think critically and analytically about moral issues. The need for setting biomedical issues in broader humanistic perspective is stressed.

SM 107. (SAST197, STSC107) Science, Technology & Medicine in Colonial India. (C) P. Mukarji.

In this course we will explore the broad contours of the histories of Science, Medicine and Technology in Colonial India (c. 1757-1947). This broad overview will be developed each week through a case study based on any one particular scientific discipline, technological project or medical event. Overall the course will attempt to locate the development of science, technology and medicine within the social, political and cultural context of colonial India. It is also worth noting that 'Colonial India', will include discussions of regions which today make up the Republic of India, Pakistan and Bangladesh.

L/R 110. (COML074, ENGL075, HIST117, STSC110) Science and Literature. (B) Arts & Letters Sector. All Classes. Adams.

This course will explore the emergence of modern science fiction as a genre, the ways it has reflected our evolving conceptions of ourselves and the universe, and its role as the mythology of modern technological civilization. We will discuss such characteristic themes as utopias, the exploration of space and time, biological engineering, superman, robots, aliens, and other worlds--and the differences between European and American treatment of these themes.

111. (SOC111) Health of Populations. (C) Kohler.

This course develops some of the major measures used to assess the health of populations and uses those measures to consider the major factors that determine levels of health in large aggregates. These factors include disease environment, medical technology, public health initiatives, and personal behaviors. The approach is comparative and historical and includes attention to differences in health levels among major social groups.

L/R 123. (STSC123) Darwin's Legacy. (B) Living World Sector. All classes. Lindee.

Darwin's conceptions of evolution have become a central organizing principle of modern biology. This lecture course will explore the origins and emergence of his

ideas, the scientific work they provoked, and their subsequent re-emergence into modern evolutionary theory. In order to understand the living world, students will have the opportunity to read and engage with various classic primary sources by Darwin, Mendel, and others. The course will conclude with guest lectures on evolutionary biology today, emphasizing current issues, new methods, and recent discoveries. In short, this is a lecture course on the emergence of modern evolutionary biology--its central ideas, their historical development and their implications for the human future.

135. (PSCI135) The Politics of Food. (M) Summers.

In this ABCS and Fox Leadership Program course students will use course readings and their community service to analyze the institutions, ideas, interests, social movements, and leadership that shape "the politics of food" in different arenas. Service sites include: the Agatston Urban Nutrition Initiative; the Greater Philadelphia Coalition Against Hunger; the West Philadelphia Recess Initiative; the Vetri Foundation's Eatiquette Program; and Bon Appetit at Penn. Academic course work will include weekly readings, Canvas blog posts, several papers, and group projects. Service work will include a group presentation (related to your placement) as well as reflective writing during the semester. Typically one half of each class will be devoted to a discussion of the readings and the other either to group work and discussion of service projects, or to a course speaker. This course is affiliated with the Communication within the Curriculum (CWIC) program, and student groups are required to meet twice with speaking advisors prior to giving presentation.

SM 140. History of Bioethics. (C) Linker.

This course is an introduction to the historical development of medical ethics and to the birth of bioethics in the twentieth-century United States. We will examine how and why medical ethical issues arose in American society at this time. Themes will include human experimentation, organ donation, the rise of medical technology and euthanasia. Finally, this course will examine the contention that the current discipline of bioethics is a purely American phenomenon that has been exported to Great Britain, Canada and Continental Europe.

L/R 145. (HIST146, STSC145) Comparative Medicine. (A) History & Tradition Sector. All classes. Mukharji.

This course focuses on health and healing in the colonial and post-colonial world. We give special attention to local healing under condition of domination, to definitions of the body and the person in biomedicine and in non-European healing traditions, and to the political and cultural place of medicine in regions which have experienced colonial rule.

SM 150. (SOC1152) American Health Policy. (C) Linker.

"American Health Policy" places the success or failure of specific pieces of U.S. health care legislation into social and political context. The course covers the time period from the U.S. Civil War to the 2010 Affordable Care Act (ACA), addressing two central questions: 1) Why was the United States one of the only industrialized nations to, until recently, have a private, non-nationalized, non-federalized health care system? 2) Why has U.S. health insurance historically been a benefit given through places of employment? Some topics addressed include: private health insurance, industrial health and workmen's compensation, the welfare state (in Europe, Canada, and the U.S.), maternal and infant care programs, Medicare and Medicaid. One of the main take-home messages of the course is that 20th-century U.S. health care policies both reflected and shaped American social relations based on race, class, gender, and age.

This course is a combination lecture and "SAIL" class. SAIL stands for "Structured, Active, In-Class Learning." During many class periods, students will work in small groups on a specific exercise, followed by a large group discussion and/or brief lecture. Students who choose to take this course, therefore, must be fully committed to adequately preparing for class and to working collaboratively in class. (Note: the 2015 format will be somewhat different from the 2014 format).

SM 152. (STSC162) Technology and Medicine in Modern America. (L) Staff.

Medicine as it exists in contemporary America is profoundly technological; we regard it as perfectly normal to be examined with instruments, to expose our bodies to many different machines; and to have knowledge produced by those machines mechanically/electronically processed, interpreted and stored. We are billed technologically, prompted to attend appointments technologically, and often

buy technologies to protect, diagnose, or improve our health: consider, for example, HEPA-filtering vacuum cleaners; air-purifiers; fat-reducing grills; bathroom scales; blood pressure cuffs; pregnancy testing kits; blood-sugar monitoring tests; and thermometers. Yet even at the beginning to the twentieth century, medical technologies were scarce and infrequently used by physicians and medical consumers alike. Over the course of this semester, we will examine how technology came to medicine's center-stage, and what impact this change has had on medical practice, medical institutions and medical consumers - on all of us!

157. (STSC152) Chinese Science. (C) Petrie.

SM 170. (CLST170) Ancient Greek Medicine. (M) Rosen.

The history of modern medicine as we know it in the West is remarkably recent; until the nineteenth century prevailing theories of the body and mind, and the many therapeutic methods to combat disease, were largely informed by an elaborate system developed centuries earlier in ancient Greece, at a period when the lines between philosophy, medicine, and what we might consider magic, were much less clearly defined than they are today. This course will examine the ways in which the Greeks conceptualized the body, disease, and healing, and will compare these to medical culture of our own time. We will consider sources from Hippocrates, Plato, and Aristotle to Galen and Soranus, and whenever possible we will juxtapose these writings with modern discourse about similar topics. Several visitors from the Medical School are expected to participate on a regular basis. All readings will be in English and no previous background in Classical Studies is required.

179. (ENVS179, STSC179) Environmental History. (M) Greene.

Environmental history studies the interactions between humans and the natural world. In this kind of study, mosquitoes and rain are actors in history as well as humans and their impact. This course explores these interactions through case studies and topics nationally and globally, such as energy, disease, human migration and settlement, animals, technological changes, urban and suburban development, conservation and politics. This course is geared toward students who want to think about how history happens, in different places and over time.

202. (STSC202) The Scientific Revolution. (M) VOELKEL, J.

The emergence of science in the sixteenth to eighteenth centuries as an activity that remade ideas of nature and society, that created new professions and institutions, and that ultimately transformed human consciousness. Classical approaches to science, challenges and new departures, the mutation of research inside and outside universities, new patterns in the dissemination of science and in public response.

SM 206. Doing Good?: Humanitarianism and Global Health. (M) McKay.

This course will explore the current context of health policy, health reform, and health service delivery in the developing world. After examining global economic and political context of health care, students will analyze the role that economic development plays in promoting or undermining health. Students will examine key disease challenges such as tuberculosis, malnutrition, and HIV/AIDS.

L/R 212. (STSC212) Science Technology & War. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Lindee.

In this survey we explore the relationships between technical knowledge and war in the nineteenth and twentieth centuries. We attend particularly to the centrality of bodily injury in the history of war. Topics include changing interpretations of the machine gun as inhumane or acceptable; the cult of the battleship; banned weaponry; submarines and masculinity; industrialized war and total war; trench warfare and mental breakdown; the atomic bomb and Cold War; chemical warfare in Viet Nam; and "television war" in the 1990s.

216. (GSWS216) Women and Health. (M) Staff.

Women's health is a constant refrain of modern life, prompting impassioned debates that speak to the fundamental nature of our society. Women's bodies are the tableaux across which politicians, physicians, healthcare professional, activists, and women themselves dispute issues as wide-ranging as individual versus collective rights, the legitimacy of scientific and medical knowledge, the role of the government in healthcare, inequalities of care, and the value of experiential knowledge, among many others. Understanding the history of these questions is crucial for informed engagement with contemporary issues.

SM 230. Fundamentals of Epidemiology. (B) Staff.

This course introduces students to the basic tenets of epidemiology and how to quantitatively study health at the population level. Students learn about measures used to describe populations with respect to health outcomes and the inherent limitations in these measures and their underlying sources of data. Analytic methods used to test scientific questions about health outcomes in populations then are covered, again paying particular attention to the strength and weaknesses of the various approaches. Multiple large epidemiologic research and field studies are used as in-class exemplars.

SM 232. Social Epidemiology. (M) Staff.

Illness, crime, and other instances of social dysfunction do not happen in a vacuum, nor are they distributed randomly throughout society. The field of social epidemiology examines the influence of workplace, neighborhood, social relationships, and other nonbiological factors on health outcomes. This course gives students the skills to explore and assess complex health challenges that are seen in popular media and public discourse by examining such factors as healthcare access, social inequality, racism and discrimination, and trust and social capital. Using readings, videos and interactive discussions with a focus on emergent health issues, this course equips students to diagnose and interpret underlying reasons for poor health using social epidemiological tools, and to consider practical interventions to address those fundamental causes of illness.

L/R 238. (ANTH238) Introduction to Medical Anthropology. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Barg.

Introduction to medical anthropology takes central concepts in anthropology -- culture, adaptation, human variation, belief, political economy, the body -- and applies them to human health and illness. Students explore key elements of healing systems including healing technologies and healer-patient relationships. Modern day applications for medical anthropology are stressed.

SM 239. (ANTH273) Global Health: Anthropological Perspectives. (M) Petryna.

In some parts of the world spending on pharmaceuticals is astronomical. In others, people struggle for survival amid new and reemerging epidemics and have little or no access to basic or life-saving therapies.

Treatments for infectious diseases that disproportionately affect the world's poor remain under-researched and global health disparities are increasing. This interdisciplinary seminar integrates perspectives from the social sciences and the biomedical sciences to explore 1) the development and global flows of medical technologies; 2) how the health of individuals and groups is affected by medical technologies, public policy, and the forces of globalization as each of these impacts local worlds. This course is a Benjamin Franklin Seminar.

SM 249. (ANTH209) Anthropology and Everyday Bioethics. (M) Staff.

For many people, the term "bioethics" denotes abstract philosophical questions about human cloning or the limits of genetic engineering technologies. Yet issues of bioethics and medical ethics arise everyday in the common situations of our lives, affecting our immediate health and well being and eventually that of the society around us. This seminar will examine this everyday bio/medical ethics from an ethnographic point of view. Topics include medical error, birth, death, population control, poverty, race global medical experimentation and corporate responsibility. We will read works by social scientists of medicine that chronicle ordinary people's struggles and the bioethics quandaries that accompany them, and in doing so will distinguish between the everyday moral experiences of people all over the world faced with difficult choices, and the ethical ideals to which they aspire. We will then ask: how can these perspectives be reconciled? When trying to reconcile these perspectives, how can we account for powerful dynamics of race, gender, class religion, and cultural difference that infuse everyday medical decision-making? And finally, how can we develop a code of ethics that takes these issues into account and is also fundamentally connected to the moral lives of the particular individuals who are affected? Is this even possible?

251. Foundations of Public Health. (C) Sorenson.

Many factors have shaped, and continue to shape, population health and public health policy. This course will explore the concept, mission, and core functions of public health. Students will have a chance to learn about its key methodological (epidemiology, biostatistics) and content (environmental health, social and behavioral sciences, health policy) areas. In addition, we will focus on topics of particular relevance to the current health of

the public; topics likely will include the basics of life (food, water, and shelter) and topics of current interest (e.g., motor vehicle crashes, mental health, violence).

252. Law and Medicine. (M) Staff.

This course is intended to give students an in-depth understanding of the ways in which medical practice and medical decision-making are guided by modern American law. Students will learn how the law's regulatory powers have been used to set boundaries in medicine and, in turn, how medical practice and theory have informed modern legal developments. The field of health care law sits at a crossroads where many of life's "big questions" converge, and consequently is shaped, more than any other legal discipline, by social, ethical, cultural and economic influences. By the end of this course, students should have an understanding both of the current state of American health law, and of the social forces that have shaped its historical development.

275. (SOC175, SOC1275) Medical Sociology. (C) Society Sector. All classes. Schnittker.

This course is designed to give the student a general introduction to the sociological study of medicine. Medical sociology is a broad field, covering topics as diverse as the institution and profession of medicine, the practice of medical care, and the social factors that contribute to sickness and well-being. While we will not cover everything, we will attempt to cover as much of the field as possible through four central thematic units: (1) the organization of development of the profession of medicine, (2) the delivery of health-care, (3) social cultural factors in defining health, and (4) the social causes of illness. Throughout the course, our discussions will be designed to understand the sociological perspective and encourage the application of such a perspective to a variety of contemporary medical issues.

SM 279. (STSC279) Nature's Nation: Americans and Their Environment. (M) Greene.

SM 289. Methods: Sexuality Studies. (C) White.

This seminar examines the links between queer theory and research methods, with an emphasis on approaches that cross the division between the social sciences and the humanities. How do scholars who contribute to critical sexuality studies navigate questions related to knowledge, ethics, and practice? How do critical, transnational, and post-colonial

theories inform methods in sexuality studies? Over the course of the term, students will become acquainted with a variety of methods for conducting qualitative research in the interdisciplinary field of critical sexuality studies. Introducing students to the process of doing research, we will consider such topics as: how to frame a research question, how to conduct a literature review, and how to choose appropriate tools to answer research questions. A range of methods including archival research, oral history, qualitative interviews, ethnography, cyber-ethnography, media and cultural studies will be explored. Issues of power, narration, interpretation, representation, and writing will be central to our discussion as we work through the relationships of theory and method.

299. Independent Study.

L/R 302. (STSC302) Stem Cell Science in Schools: History, Ethics, and Education. (M) Shuda.

This course will provide University of Pennsylvania and a local Philadelphia High School students with the opportunity to learn fundamental biology concepts and apply them in a hands-on, inquiry-based approach that is also attentive to society, history and social context. Biological sciences have long been deeply engaged with social issues, and our topics for this course reflect their relevance to everyday life. Topics of this course will include, but are not limited to, cell development and stem cell biology, which form the basis of the emerging field of Regenerative Medicine. Penn students will reinforce their learning of these concepts by mentoring high school students, demonstrations by Penn scientists, and a co-teaching method involving Penn faculty and a partnering high school teacher. A primary goal of this course is to expose both Penn and high school students to cutting edge science and its societal impact. Through this course Penn students will learn critical skills that can help them bring scientific ideas to professionals, and important to any educated professional.

SM 307. (SAST397, STSC307) Globalization & Medicine in Colonial & Postcolonial South Asia. (C) P.Mukharji.

This seminar will explore a wide range of themes at the intersection of globalization and therapeutic cultures in South Asia and amongst South Asian diasporas. To begin with the course understands 'supraterritoriality' as the key feature of globalization and proceeds to interrogate

the myriad ways in which this supraterritoriality was produced, consumed, used and debated within the therapeutic cultures that have been, and on occasion still are, available in south Asia—both in reality and symbolically. Each week, through a specific case study, framed by a few theoretical readings, we will attempt to deepen and problematize the simple definition of globalization with which we start the course. Throughout the course there will be a strong emphasis on combining case study-based empirical material with theoretical interventions in Cultural Theory and Postcolonial Studies.

SM 312. (STSC312) Weapons of Mass Destruction. (C) Lindee.

The course explores the historical development of traditional weapons of mass destruction such as chemical, nuclear and biological agents, in addition to newer and seemingly non-traditional weapons such as land mines and civilian aircraft that can also be employed to cause large numbers of injuries and deaths among civilian and military populations. Through case studies in technology and public health, students will evaluate the medical, scientific, environmental, and cultural ramifications of these weapons and their effect on human health and society by analyzing the rise of the military-industrial-academic-complex in twentieth century America.

SM 321. (ANTH312, URBS312) Health in Urban Communities. (A) Staff.

This course will introduce students to anthropological approaches to health and to theories of participatory action research. This combined theoretical perspective will then be put into practice using West Philadelphia community schools as a case study. Students will become involved in design and implementation of health-related projects at an urban elementary or middle school. As one of the course requirements, students will be expected to produce a detailed research proposal for future implementation.

SM 324. (GSWS324, NURS324) United States Child Health 1800-2000. (A) Connolly.

This course explores the impact of historical ideas, events and actors pertaining to the history of children's health care in the United States. Emphasis is placed on tracing the origins and evolution of issues that have salience for twenty-first century children's health care policy and the delivery of care.

332. (GSWS303, NURS303, NURS503) Contemporary Issues in Human Sexuality. (B) Guidera.

Course content emphasizes theories of sexual development and factors influencing sexual behavior within the continuum of health and illness. Common sexual practices of people are studied within the context of lifestyle and situational life crises. Concepts of normal sexual function and dysfunction are examined. Contemporary sexual issues are explored.

SM 334. (GSWS333) Birth Culture and Medical Technology. (M) Mackenzie.

How we are born and give birth can vary more than most people realize. Until the rise of medical technology, women gave birth at home surrounded by other women. Now, the majority of Americans are born in hospitals, and a large percentage of those birth are the result of surgical interventions. This course will explore the medicalization of birth, as well as the movements dedicated to promoting home birth, natural birth, and midwifery. Many of the readings will examine birth from an unapologetically feminist and/or holistic perspective, and we will discuss the psychological, political, cultural and spiritual dimensions of birth practices. We will also consider the impact of increasingly sophisticated medical technology on conception and pregnancy, including in vitro fertilization, surrogate mothers, and extending the childbearing years well into late life. An important theme throughout will be the concept of "appropriate technology" -- which technologies are appropriate and who decides? Readings will be drawn from a number of sources, principally midwifery, nursing, and medical journals.

SM 335. (PSCI335) Healthy Schools. (M) Summers.

This academically based community service research seminar will develop a pilot program to test the efficacy of using service-learning teams of undergraduates and graduate students to facilitate the development of School Health Councils (SHCs) and the Center for Disease Control's School Health Index (SHI) school self-assessment and planning tool in two elementary schools in West Philadelphia. This process is intended to result in a realistic and meaningful school health implementation plan and an ongoing action project to put this plan into practice. Penn students will involve members of the school administration, teachers, staff, parents and community members in the SHC and SHI process with a special focus

on encouraging participation from the schools' students. In this model for the use of Penn service-learning teams is successful, it will form the basis of an ongoing partnership with the School District's Office of Health, Safety & Physical Education to expand such efforts to more schools.

SM 337. Race and Medicine in the Global South. (C) Mukharji.

Racialized medical provisions under Apartheid in South Africa, theories of racial immunity to malaria in the Philippines and contemporary investigations of caste-based disease risks in India are some of the topics to be covered in this course. From the more straightforward issues of racial discrimination in medicine, to more complex issues of racial immunity or racial susceptibility to disease, medicine and race have been entangled together in multiple ways. More importantly these issues are far from being matters of the past. Genomic medicine and risk society have combined to make race and medicine one of the most potent contemporary issues. Outside the Western World, in the Global South, these issues are further refracted through local cultural, historical and political concerns. This course will take a long-term view of these contemporary issues.

SM 340. (STSC340) The Curing Machine: Hospitals in Time. Gina Greene.

This course examines the technological, scientific, and spatial evolution of the modern hospital from the miasmatic, vermin-infested medieval European hospital-as-almshouse, to the late twentieth-century ideal of the modern hospital as a condenser of sophisticated technologies, scientific expertise, and Taylorist efficiencies. In so doing, we will see how designers of hospital space, consciously or not, have striven to realize the mechanized, technologic vision of the hospital as curing machine a phrase first invoked by 18th century French surgeon and anatomist Jacques Tenon. While the early nineteenth-century hospital had been a locus for fears about contagion, death, and disease in a pre-germ theory world, through its eventual integration of antiseptic practices, spatially produced zones of medical expertise (the operating suite, the laboratory, pediatric and maternity wards), novel technologies (incubators, hyperbaric chambers, x-rays, ultrasounds) and factory-like efficiencies the hospital came into its own as the epitome of rational modernist space.

SM 341. (GSWS318, NURS318) Race, Gender, Class and the History of American Health Care. (A) Fairman.

For Benjamin Franklin Scholars & Nursing Honors Students.

This multidisciplinary course surveys the history of American health care through the multiple perspectives of race, gender, and class, and grounds the discussions in contemporary health issues. It emphasizes the links between the past and present, using not only primary documents but materials from disciplines such as literature, art, sociology, and feminist studies that relate both closely and tangentially to the health professions and health care issues. Discussions will surround gender, class-based, ethnic, and racial ideas about the construction of disease, health and illness; the development of health care institutions; the interplay between religion and science; the experiences of patients and providers; and the response to disasters and epidemics.

SM 342. Death and Dying. (M) Walls.**SM 347. Asian Medicine and Modernity. (C)** Mukharji.

From Yoga clinics to Acupuncture shops, from Sting's advocacy of Tantric Sexual regimens to Dr. Gregory House recommending the Cordyceps sinensis, Asian medicines are an increasingly important and conspicuous facet of the modern world. Yet, nearly all of them claim to be thousands of years old. How have they managed to survive and thrive despite their age? Why have they not disappeared like so much else from bygone Asian intellectual traditions? This course asks these and similar questions. It looks at the multifaceted ways in which Asian medicines have negotiated with modernity.

SM 348. Current Issues in Global Health. (M) Johnson.**SM 359. (ANTH359) Nutritional Anthropology. (M)** Staff.

Human nutrition and nutritional status within context of anthropology, health, and disease. Particular emphasis on nutritional problems and the development of strategies to describe, analyze, and solve them. Students will participate in the Urban Nutrition Initiative, an academically based community service project in local area schools.

SM 379. (STSC379) Animals in Science Medicine Technology. (C) Greene.

What we call human society is composed of both non-human and human animals.

Rats, mosquitoes, horses, dogs, sparrows, camels and whales have been historical actors, integral to questions about change over time. Using a historical approach, this course will examine animal science and research, veterinary medicine, and animal energy and technology in the context of changing ideas about human-animal relations, animal welfare, animal rights and animal studies. We will explore broad change over time in human-animal relations, and focus specifically on the period since the mid-19th century, looking at specific species and drawing from materials in the arts, literature, history, science and social science.

SM 382. Guns and Love Gone Bad: A Public Health Perspective. (M)

Sorenson.

This course will address two health concerns of long-standing controversy: the role of guns in population health and violence in relationships. We will adopt a healthy skepticism about the assumptions and ideologies that currently dominate formal and informal discourse about these topics. A life span perspective - guns from design through use, and abuse from childhood through late life - will be grounded in a public health injury prevention framework. As a function of this approach, we will examine key aspects of the social context in which guns and abuse exist and within which related policies are formulated. Students are encouraged to examine their perceptions about these issues so that they can become more effective members of a society that appears to maintain a deep ambivalence about guns and about violence in relationships.

SM 404. (ENVS404) Urban Environments: Speaking About Lead in West Philadelphia. (M)

Natural Science & Mathematics Sector. Class of 2010 and beyond. Pepino. ABCS Course. Local middle school visits required.

A study of selected aspects of urban environments, with an emphasis on West Philadelphia. Students will engage middle school children in exercises of applied environmental research.

SM 408. (ENVS408) Urban Environments: The Urban Asthma Epidemic. (B)

Pepino. ABCS Course. Visits to community centers required.

This course will examine the epidemiology of asthma, the potential causes of asthma, the public health issues and environmental triggers. Penn students will collaborate with the Children's Hospital's clinical research study - Community Asthma Prevention Program. Students will conduct

environmental triggers classes in the community.

SM 411. (STSC411) Sports Science Medicine Technology. (C)

Johnson.

Why did Lance Armstrong get caught? Why do Kenyans win marathons? Does Gatorade really work? In this course, we won't answer these questions ourselves but will rely upon the methods of history, sociology, and anthropology to explore the world of the sport scientists who do. Sport scientists produce knowledge about how human bodies work and the intricacies of human performance. They bring elite (world-class) athletes to their laboratories-or their labs to the athletes. Through readings, discussions, and original research, we will find out how these scientists determine the boundary between "natural" and "performance-enhanced," work to conquer the problem of fatigue, and establish the limits and potential of human beings. Course themes include: technology in science and sport, the lab vs. the field, genetics and race, the politics of the body, and doping. Course goals include: 1) reading scientific and medical texts critically, and assessing their social, cultural, and political origins and ramifications; 2) pursuing an in-depth

SM 413. (STSC413) Perfect Bodies. (C)

Linker.

SM 420. Research Seminar. (B)

Staff. This course is designed to provide HSOC students with the tools necessary to undertake original research, guiding them through the research and writing process. Students will produce either a polished proposal for a senior thesis project, or, if there is room in the course, a completed research paper by the end of term. Students work individually, in small groups and under the close supervision of a faculty member to establish feasible research topics, develop effective research and writing strategies, analyze primary and secondary sources, and provide critiques of classmates' drafts. Students must apply for this course by December 1.

SM 421. Medicine and Development. (C)

Feierman. This course is devoted to readings and research about medicine and development in resource-poor countries. The focus is on medical institutions and practices as seen within the broader context of development. We try to understand changing interpretations of how development takes place--of its relationship to technical knowledge, power and inequality. The

course give students the opportunity to do intensive original research.

SM 430. Disease & Society. (C)

Aronowitz.

What is disease? In this seminar students will ask and answer this question by analyzing historical documents, scientific reports, and historical scholarship (primarily 19th and 20th century U.S. and European). We will look at disease from multiple perspectives -- as a biological process, clinical entity, population phenomenon, historical actor and personal experience. We will pay special attention to how diseases have been recognized, diagnosed, named and classified in different eras, cultures and professional settings.

SM 436. (STSC436) Biopiracy: Medicinal Plants and Global Power. (M)

Mukharji. Biopiracy has emerged as the name of conflict between multinational pharmaceutical companies attempting to get genetic patents on medicinal plants and indigenous communities in the Global South who have long known and used these plants for medicinal purposes. Today the story of Biopiracy is an unfolding story of plants, patents and power. The extraction and commercial exploitation of plants and knowledge about them from the Global South however is not new. It has been happening at increasing pace for at least the last two centuries. Both the anti-malarial drug quinine and the cancer drug vincristine for instance have their plant-origins in the Global South where local communities used them medicinally long before their discovery by biomedicine. This course will put the current debates around Biopiracy in context and explore how the entanglements of plants and power have changed or not changed.

SM 441. (ANTH441) Cross Cultural Approaches to Health. (B)

Barg. This course will explore the ways that health and illness-related beliefs and behaviors develop within communities. We will identify the forces that shape these beliefs and behaviors and ultimately affect who gets sick, who gets well, and the very nature of the illness experience. Emphasis will be given to the relationships among sociocultural, political and biological factors and the ways that these factors interact to produce the variation that we see in health and illness related attitudes, behaviors and outcomes across cultures.

442. (STSC442) HOSPITAL AS CURING MACH.

This course examines the technological, scientific, and spatial evolution of the modern hospital from the miasmatic, vermin-infested medieval European hospital-as-almshouse, to the late twentieth-century ideal of the modern hospital as a condenser of sophisticated technologies, scientific expertise, and Taylorist efficiencies. In so doing, we will see how designers of hospital space, consciously or not, have striven to realize the mechanized, technological vision of the hospital as curing machine a phrase first invoked by 18th century French surgeon and anatomist Jacques Tenon. While the early nineteenth-century hospital had been a locus for fears about contagion, death, and disease in a pre-germ theory world, through its eventual integration of antiseptic practices, spatially produced zones of medical expertise (the operating suite, the laboratory, pediatric and maternity wards), novel technologies (incubators, hyperbaric chambers, x-rays, ultrasounds) and factory-like efficiencies the hospital came into its own as the epitome of rational modernist space. But, over the course of its evolution, the modern hospital has undergone other change as well: as an incubator for super-bugs, as an engine for projects of renewal, and as a site for the cultural transformation of the meaning of birth, death, and health itself.

SM 449. Vertical Global Health Movements. (M) Staff.

In the past 30-40 years, "vertical" movements to tackle specific disease problems-or even eliminate particular disease vectors-have become the norm for global health interventions, replacing a short-lived Primary Health Care movement that sought to broadly improve health and welfare conditions from the bottom up in resource-poor countries around the world. Many of these vertical programs were at first implemented with little consideration of specific local circumstances regarding difference in disease burden, transmission pathways, microbial strain, existing local treatment and control approaches,

significant historical factors, or type and degree of suffering. Recent campaigns have attempted to revisit the problem of the "local." This course examines some of the most influential of these global vertical disease control campaigns from the 1950s through the present. Our goal will be to elucidate some of the crucial factors that have shaped local experiences of the relevant diseases, and that have influenced the direction and outcome of vertical control efforts at the local and global levels. Students will extensively research a particular campaign and its potential effects in a geographical location and time period of their choice.

SM 458. Environments and Health. (M) Crnic.

Do classrooms' fluorescent lights give you headaches? Have you ever felt invigorated by a mountain's breeze? Have you ever sought to get a "healthy" tan at the beach? Throughout history people have attributed their health -- good and bad-- to their physical surroundings. In this class we will explore how medical professionals, scientists and the general population have historically understood the ways in which the environment impacts different people, in different places, in different ways. We will interrogate medical theories that underpinned popular practices, like health tourism, public health campaigns, and colonial medical programs. We will also consider how people constructed and understood the physical environment, including farms and factories, cemeteries and cities, to be healthy or not. This course is designed to foster a collaborative atmosphere in which students will complete an original research paper through critical reading and step-wise assignments that will culminate in a final project.

SM 461. (STSC461) THE CHILD IN THE CITY. (M)**SM 462. Seeking Health: Tourism, Medicine in America 1800-2000. (M)** Crnic.

Summer camps, spring break, and trips to the beach, mountains, and national parks:

vacations are an integral part of American culture. Often we talk and think about traveling for its ability to rejuvenate our tired bodies and spirits. Although tourism only developed over the past 100 years, the tradition of traveling for health has a much deeper history. This course will examine how different people in different times have understood the connections between travel and health, and how technologies have and continue to mediate those experiences. Over the course of the semester students will complete an original research paper through critical reading and step-wise assignments that will culminate in a final project. By the end of the semester, students will have honed their skills in primary and secondary source research, the construction of an academic argument and paper, and will continue to develop skills in critical analysis through weekly reading assignments.

SM 471. (PUBH534, STSC471) Guns and Health. (C) Sorenson.

The purpose of this course is for students to gain an understanding of the role of guns in health, and population and prevention approaches to violence. The course will include a focus on policies and regulations related to firearms, the primary mechanism by which violence-related fatalities occur in the U.S. We will address the life span of a gun, from design and manufacture through to use. In addition, we will address key aspects of the social context in which firearms exist and within which firearm policy is made.

SM 481. Nonstranger Violence. (M) Sorenson.**SM 488. (ANTH438) The Anthropology of Risk Perception in Health. Barg.****499. Capstone Independent Study. (C)**

HEALTH CARE MANAGEMENT (WH) {HCMG}

101. Health Care Systems. (C)

Harrington/Polsky.

This introductory course takes a policy and politics angle to health care's three persistent issues - access, cost and quality. The roles of patients, physicians, hospitals, insurers, and pharmaceutical companies will be established. The interaction between the government and these different groups will also be covered. Current national health care policy initiatives and the interests of class members will steer the specific topics covered in the course. The course aims to provide skills for critical and analytical thought about the U.S. health care system and the people in it.

202. (ECON039) The Economics and Financing of Health Care Delivery. (C)

David. Prerequisite(s): Economics 1 or consent of instructor. Students who take HCMG 202 may not also take HCMG 352 for further credit.

The course provides an application of economic models to demand, supply, and their interaction in the medical economy. Influences on demand, especially health status, insurance coverage, and income will be analyzed. Physician decisions on the pricing and form of their own services, and on the advice they offer about other services, will be considered. Competition in medical care markets, especially for hospital services, will be studied. Special emphasis will be placed on government as demander of medical care services. Changes in Medicare and regulation of managed care are among the public policy issues to be addressed.

203. Clinical Issues in Health Care Management: Doctors, Patients and Managers in Modern Society. (B)

Asch.

This course will explore the effects of the changing health care environment on the physician, patient and health care manager. It is intended for any undergraduate with an interest in how 1/6th of the American economy is organized as well as those planning careers as health care providers and managers. The course complements other health care courses (that take a societal perspective) by focusing on the individuals who participate in the health care enterprise. There are no prerequisites, as the course will stand on its own content. The course will be divided into modules that focus on the participants of the health

care process and the process itself. We will analyze the patient, the doctor, and manager in light of the patient-doctor interaction, the turbulent health care marketplace, expensive new technologies, resource allocation, and ethics.

204. (HCMG859) Comparative Health Care Systems. (A)

Danzon. This course examines the structure of health care systems in different countries, focusing on financing, reimbursement, delivery systems and adoption of new technologies. We study the relative roles of private sector and public sector insurance and providers, and the effect of system design on cost, quality, efficiency and equity of medical services. Some issues we address are normative: Which systems and which public/private sector mixes are better at achieving efficiency and equity? Other issues are positive: How do these different systems deal with tough choices, such as decisions about new technologies? Our main focus is on the systems in four large, prototypical OECD countries--Germany, Canada, Japan, and the United Kingdom--and then look at other countries with interesting systems- including Italy, Chile, Singapore, Brazil, China and India. We draw lessons for the U.S. from foreign experience and vice versa.

211. (HCMG854, LGST211, LGST811) Legal Aspects of Health Care. (A)

Rosoff/Field. This course offers a current and historical overview of the regulation of health care delivery and financing in the US. It examines principles and practical applications of the laws that affect the operational decisions of health care providers, payors, and managers and that impact development of markets for health care products and services. Also considered are the social and ethical issues encountered in trying to balance the interests, needs and rights of individual citizens against those of society. For part of the term, the class will divide into two groups so that students can focus on their choice of (1) health care management (antitrust law, and regulation of the drug and medical device industry) or (2) selected issues of patients' rights (e.g. abortion, treatment of terminal patients, etc.)

212. Health Care Quality and Outcomes: Measurement and Management. (B)

Silber. Prerequisite(s): Introductory Statistics or permission of instructor.

This course will familiarize students with methods used to assess the quality of

hospital or provider health care using outcomes data, and to understand and evaluate studies involving health care outcomes. Students are exposed to the mechanics of hospital quality evaluation and challenged to evaluate the medical and health services research literature on health care evaluation, as well as to make inferences regarding hospital quality and the comparison or rankings of hospitals or providers. Topics will include the history of health care outcomes analysis; the conceptual framework for outcome studies; consumer demand for information; an overview of medical data and data collection systems; a description of outcome statistics and severity adjustments currently in use; the study of excess variation in outcomes; and the use of guidelines to assess outcomes. By the end of the course, students will have developed a thorough appreciation of the current methods used by policy makers, researchers, and health care providers to evaluate medical outcomes, as well as those used by consumers to choose hospitals and providers.

213. Health Care Strategy and Management: the Business of Health Care. (A)

Kimberly. This course presents an overview of the business of health and how a variety of health care organizations have gained, sustained, and lost competitive advantage amidst intense competition, widespread regulation, high interdependence, and massive technological, economic, social and political changes. Specifically, we evaluate the challenges facing health care organizations using competitive analysis, identify their past responses, and explore the current strategies they are using to manage these challenges (and emerging ones) more effectively. Students will develop generalized skills in competitive analysis and the ability to apply those skills in the specialized analysis of opportunities in producer (e.g. biopharmaceutical, medical product, information technology), purchaser (e.g. insurance), and provider (e.g. hospitals, nursing homes, physician) organizations and industry sectors. The course is organized around a number of readings, cases, presentations, and a required project.

215. Management and Economics of Pharmaceutical, Biotech, and Medical Device Industries. (B)

Danzon. Prerequisite(s): One undergraduate Health Care Management course or Economics course.

This course provides an overview of the management, economic and policy issues

facing the pharmaceutical, biotechnology, and medical device industries. The course perspective is global, but with emphasis on the U.S. as the largest and most profitable market. Critical issues we will examine include: R&D intensive cost structure and rapid technological change; biotechnology and genomics startups and alliances with the pharma industry; a complex global marketplace in which prices are regulated in most countries and customers include governments and insurers, as well as physicians, pharmacists and consumers; intense and evolving M&A, including mergers, joint ventures, and complex alliances; government regulation of every business function, including R&D, pricing and promotion; and global products and multinational firms. We use Wharton and industry experts from various disciplines to address these issues.

216. Health Insurance and Health Care Strategy. (B) STARC.

This course combines the insights of health economics with a strategic perspective on the business of health. The first section will consider the costs and benefits of medical interventions, while the second considers insurance theory and places special emphasis on the challenges facing firms in the face of the rising costs of health benefits as well as opportunities for private insurers operating in publically financed markets. The third section will analyze strategies of vertical and horizontal integration and their effect on the balance of power in local healthcare markets. Finally, the course will cover the effects of reform on firm incentives. The course will be taught using a mix of lectures and cases.

250. (BIOE575, HCMG850) Health Policy: Health Care Reform and the Future of the American Health System. (A) Emanuel.

This course will provide students a broad overview of the current U.S. healthcare system. The course will focus on the challenges facing the health care system, an in-depth understanding of the Affordable Care Act (ACA) and of its potential impact upon health care access, delivery, cost, and quality as well as its effect on firms within the health care sector. The course will examine potential reforms, including those offered by liberals and conservatives and information that can be extracted from health care systems in other developed countries.

The course will also explore key facets of the ACA, including improving access to care and health insurance exchanges, improving quality and constraining costs through health care delivery system

reforms, realigning capacity through changes in the health care workforce and in medical education, the potential impact on biomedical and other innovations, and the impact on economic outcomes such as employment, wage growth, and federal budget deficits. The course will also examine the political context and process of passing major legislation in general and health care legislation in particular, including constitutional arguments surrounding the Affordable Care Act. Throughout the course, the key lessons will integrate the disciplines of health economics, health and social policy, law and political science to elucidate key principles.

352. (HCMG852) Health Services Delivery: A Managerial Economic Approach. (B) David.

The purpose of this course is to apply economics to an analysis of the health care industry, with special emphasis on the unique characteristics of the US healthcare markets, from pre-hospital to post-acute care. This course focuses on salient economic features of health care delivery, including: the role of nonprofit providers, the effects of regulation and antitrust activity on hospitals, the degree of input substitutability within hospitals, the nature of competition in home health care, public versus private provision of emergency medical services, the effect of specialty hospitals and ambulatory surgery centers, the economics of direct-to-consumer advertising and its effect on drug safety, defining and improving medical performance in hospitals, specialization and investment in physical and human capital, and shifting of services between inpatient and outpatient settings and its effect on health care costs and quality.

391. Health Care Entrepreneurship. (A) Grennan.

Delivering basic health care advances worldwide and continuing to increase lifespan and quality (in an affordable manner) represent some of the major societal challenges of our time. Addressing these challenges will require innovation in both medical technology and the ways in which health services are delivered. Through readings, cases, guest lectures, and your own entrepreneurial work outside of class, we will examine the environment facing prospective health care entrepreneurs: (1) sources of health care innovation; (2) the many "customers" in health care: patients, doctors, hospitals, insurers, and regulators; (3) the powerful established firms with developed clinical and sales expertise; (4) the investing

community. Along the way we will develop a framework for thinking about what is different (and what is not) about the challenges of health care entrepreneurship.

841. Health Services System. (A) Burns. Lectures and cases. Weekly reading assignments.

This course provides an overview of the evolution, structure and current issues in the health care system. It examines the unique features of health care as a product, and the changing relationships between patients, physicians, hospitals, insurers, employers, communities, and government. The course examines three broad segments of the health care industry: payors, providers and suppliers. Within the payor segment, the course examines the sources and destinations of spending, managed care (HMOs, PPOs), employer based health insurance, technology assessment, payor strategy, and efforts to pay for the elderly, the poor & the medically indigent. Within the provider segment, the course examines the impact of cost containment and competition on hospitals and integrated delivery systems, long term care and disease management, and the important role of epidemiology in assessing population health needs and risks. Within the supplier segment, the course will examine developments in the biotechnology, pharmaceutical, medical devices, genomics and IT industries. NOTE: This is a required course for Wharton Graduate Health Care Management majors; it counts as an elective course for all other Wharton Graduate students. It is also open to Law School and Nursing School students with a joint Wharton Program.

845. Managed Care and the Industrial Organization of Health Care. (B) Starc/Fluegel. Lectures, cases, exam, and orally presented term project.

This course, co-taught with Brad Fluegel (former Executive VP of Wellpoint, Inc and current Chief Strategy Officer at Walgreens) will focus on two interrelated topics: managed care and market structure. The section on managed care will cover strategic planning and marketing of managed care services, operational issues in developing a managed care network, actuarial issues, and the management of physician behavior. The section on health care market structure will analyze strategies of vertical integration and horizontal integration (M+As), and their attempt to alter the balance of power in local healthcare markets. The section will also analyze the operational issues in managing cost and quality in an integrated system, integration along the supply chain, and the

performance of these systems, and the bargaining and negotiation between hospitals, physicians, and health plans.

849. Financial Management of Health Institutions. (A) Harrington.

Prerequisite(s): Finance 611 or equivalent coursework or experience. Lecture and cases. Students work in teams to complete 4-5 case write-ups and an oral case presentation. There is also a written exam.

This course focuses on health care organizations' financial decisions in the changing health care landscape. Upon completion of the course, students will be able to utilize a range of financial tools and techniques for making value-added financial decisions in a variety of important contexts in the health care sector. The course involves case analyses and lectures, including presentations by practitioners with extensive real world experience. The course is organized around cases dealing with publicly-traded health care company valuation, valuation and return on investment of biopharmaceutical and medical technology development projects, valuation and deal structure for startup and early stage health care organizations, health plan pricing and finance, and health care provider risk-sharing arrangements. Each case is accompanied by background on tools, methods, institutions, and markets. Students seeking careers in health care finance and financial decision making. Students with more background will extend and enhance their analytical skills in a variety of important areas.

852. (HCMG352) Health Services Delivery: A Managerial Economic Approach. (C) David. Written exam and student presentation.

The purpose of this course is to apply economics to an analysis of the health care industry, with special emphasis on the unique characteristics of the US healthcare markets, from pre-hospital to post-acute care. This course focuses on salient economic features of health care delivery, including: the role of nonprofit providers, the effects of regulation and antitrust activity on hospitals, the degree of input substitutability within hospitals, the nature of competition in home health care, public versus private provision of emergency medical services, the effect of specialty hospitals and ambulatory surgery centers, defining and improving medical performance in hospitals, specialization and investment in physical and human capital, shifting of services between inpatient and outpatient settings and its effect on health care costs and quality, and innovation in primary care from retail clinics to patient-

centered medical homes and retainer-based medicine.

853. Medical Devices.

Grennan/Solomon.

Successful medical devices are an amalgamation of creative and innovative thinking, clinical expertise, and engineering know-how that endures intense regulatory and reimbursement scrutiny. This course will provide a foundation for understanding the nuances of the medical device industry. It will cover topics ranging from device design and discovery, regulatory issues, marketing, reimbursement, management, and strategy. Classroom activities will be supplemented with optional tours of hospitals, research and manufacturing facilities, and hands-on demonstrations of devices. Though the course is intended primarily for MBA students, it will be open to medical and engineering students as well as to hospital house staff.

854. (HCMG211, LGST211, LGST811) Legal Aspects of Health Care. (A)

Rosoff/Field. Lecture and group discussion. The setting is informal and members of the class are expected to participate actively; participation counts 10% of the grade. The course includes periodic quizzes (20%), the student's choice of a midterm exam or legal research paper (either counting 30%), and a final exam (40%). The course serves a mix of graduate and undergraduate students, including: Healthcare Management majors (MBA & UG), pre-med undergrads, Health & Society majors, pre-med students, nursing and social work students, and bioethics and law students. Background knowledge of health care systems is helpful for full appreciation of the issues covered but is not required. No prior study or background in law is required. Grading is carefully handled to assure that no category of students is at a relative disadvantage.

This course offers a current and historical overview of the legal oversight and regulation of health care delivery in the U.S. It examines principles and practical applications of the laws that affect the operational decisions of health care providers, payors, and managers and that impact development of markets for health care products and services. Also considered are the social, moral, and ethical issues encountered in trying to balance the interests, needs and rights of individuals against those of the larger society. For part of the term, the class will divide into two groups so that students can focus on their choice of (a) health care management or (b) selected issues of patients' rights. Cross-listed with LGST 811.

855. Management of Health Care for the Elderly. (A) Whitman.

This mini course is designed to provide students with an appreciation of the good, the bad and the ugly of how our current health care system cares for one of our nation's most precious resources - our seniors! This course will review care provided to seniors within a variety of institutional settings (hospitals, nursing facilities, various senior housing levels) as well as outpatient and home care services. Special attention will be paid to nursing homes and senior housing options and their past, present and future role within the overall health care system in the United States. The course will start with an overview of the senior population with special attention to their health and social needs. Several classes will be held off campus at selected nursing facilities and senior housing complexes. In addition, a broad range of special programs and services will be reviewed such as sub-acute care, long term care insurance, Medicare Risk Programs, elderly housing, adult day care, managed care, Medicare Part D, case management, hospice and other recent developments. Throughout the course, emphasis will be placed on entrepreneurial opportunities to serve the senior market at all levels.

Students are required to produce a paper for this course that focuses on a specific area impacting the senior market. This is a wonderful opportunity for students to select an area of personal interest and conduct an in depth review of that area including making direct contact with national experts within the topic selected. All student topics must be approved during the first two weeks of class and the depth of research required agreed upon by the student and the instructor. Interested students not in the HCMG major are urged to speak to the instructor before enrolling in the course.

858. Health Care Marketing. (A)

Grennan/Mahadaven. This course explores these challenges in detail, always concentrating on what is different - and what is not- about marketing in health care relative to other industries. This broad coverage lays the foundation for the course project-where students develop a plan and forecast for marketing a new health care product. Lectures and case discussions will provide a mix of strategic and toolkit content, and guest lectures from a variety of industry executives will provide additional real-life, real-time perspectives.

This course is aimed at students interested in better understanding an increasingly complex market environment for

Healthcare product development and commercialization. Across the entirety of the class we will explore the facts and clarify the implications of five ongoing thematic changes - the 5 D's - that are fundamentally transforming commercial decision making in health care markets from insurance and care delivery to pharmaceuticals, biotechnology, and devices: (1) Dispersion (of choice): Healthcare product/service choice has dispersed from a physician-centric world to include patients, payors, governments, advocacy groups, purchasing organizations, pharmacies, and hospitals. (2) Data (explosion of): How organizations understand and leverage the immense availability of data and shepherd its conversion into insights will be key driver of future competitive differentiation. (3) Disruption (technological avalanche): The multiplicity of channels within which is gathered, shared and exploited has caused much confusion in an industry that often feels hampered by regulatory oversight. How can a commercialization/marketing executive maintain control over information and brand identity in such an age? (4) Division (of responsibilities): Companies are most often organized in multiple

customer-facing and/or functional silos (e.g., Customer Marketing, Professional Promotion, Managed Markets, Early Development, Data Managements). In a world where these organizational functions have converged how is commercialization and marketing best managed? (5) Dollars (economic implications): Each stakeholder within this newly dispersed set has different concerns and interacts in different ways, at different points of the value chain, with different incentives! Understanding the collective impact of the interplays across these differences is a competence that any Healthcare marketer needs to develop in order to craft and deliver market-perceived value.

859. (HCMG204) Comparative Health Care Systems. (A) Danzon.

Prerequisite(s): Format: HCMG or ECON course.

This course examines the structure of health care systems in different countries, focusing on financing, reimbursement, delivery systems and adoption of new technologies. We study the relative roles of private sector and public sector insurance and providers, and the effect of system design on cost, quality, efficiency and equity of medical services. Some issues we address are normative: Which systems and which public/private sector mixes are better

at achieving efficiency and equity? Other issues are positive: How do these different systems deal with the tough choices, such as decisions about new technologies? Our focus first on the systems in four large, prototypical OECD countries- Germany, Canada, Japan, and the United Kingdom - and then look at other developed and emerging countries with interesting systems - including Italy, Chile, Singapore, Brazil, China and India. We will draw lessons for the U.S. from foreign experience and vice versa.

863. Management and Economics of Pharmaceutical, Biotech and Medical Device Industries. (B) Danzon.

This course provides an overview of the management, economic and policy issues facing the pharmaceutical, biotechnology and medical device industries. The course perspective is global, but with emphasis on the U.S. as the largest and most profitable market. Critical issues we will examine include: R&D intensive cost structure with regulation and rapid technological change; strategic challenges of biotechnology startups; a complex global marketplace in which prices are regulated in most countries and customers include governments and insurers, as well as physicians, and consumers; intense and evolving M&A, joint ventures, and complex alliances; thriving generics industry in the US and globally. We use Wharton and industry experts from various disciplines to address these issues.

866. E-Health: Business Models and Impact. (B) Glaser/Patel.

This course will introduce students to the main components of Health Information Technology (HIT) and how HIT currently effects, and in the future, may change health care operating models. Although it will not prepare students for primary technology management positions, it will help them understand the role of information technology in the success of the delivery system and other important healthcare processes. It will provide a foundation that will prepare them as managers, investors and consultants to rely upon or manage information technology to accomplish delivery system objectives. The course will give special attention to key health care processes, and topics such as the drive for provider quality and cost improvements, the potential ability to leverage clinical data for care improvement and product development, the growth of new information technologies for consumer directed healthcare and telemedicine, the strategies and economics of individual HIT companies and the role of government.

The course relies heavily on industry leaders to share their ideas and experiences with students.

867. Health Care Entrepreneurship. (B) Kurtzman & Libson.

The course focuses on the creation, funding, and management of biotechnology and health services enterprises. The course is designed to supplement other offerings in the Health Care Systems and Management Departments for those students with entrepreneurial interest in such ventures, and will focus on special issues surrounding the conceptualization, planning, diligence and capitalization, launch, compensation and management of these ventures. In addition, course offers methods for self-assessment & development of business models and plans, techniques for technology assessment and strategy, develops foundation for capitalization and partnering strategies, and creates a basis for best practices in company launch and plan execution. Students must apply to take this course. Please see the Health Care Management Department for the application.

868. Private Sector Role in Global Health. (B) Sammut.

Issues surrounding global health have captivated the attention of the public sector and foundations for many decades. Many of their initiatives are realizing progress on the health-related Millennium Development Goals. The private sector has been less engaged in global health, but has a significant role to play in providing resources and in building infrastructure, human resource capacity and sustainability. This course explores entrepreneurial and other private sector solutions for health services and access to medicines and technologies in the developing world and other underserved areas. The course also encompasses study of creative programs to engage the private sector in development of vaccines and medicines for tropical and neglected diseases. Furthermore, the course addresses novel care systems and therapeutic strategies for the rapidly growing burden of chronic, non-communicable diseases in the developing world. In short, the course builds on the content of conventional global health courses from a managerial and entrepreneurial perspective. Learning is driven through readings, class discussion and a series of guest speakers representing a wide range of global health issues. Evaluation is largely based on a student group project.

SM 890. (WH 217) Advanced Study Project: Management of Health Care Service Businesses. (B) Present.

HCMG 890-001: This course examines issues related to the Services Sector of the health care industry. For those interested in management, investing, or banking to the health care industry, the services sector will likely be the largest and most dynamic sector within all of health care. We will study key management issues related to a number of different health care services businesses with a focus on common challenges related to reimbursement, regulatory, margin, growth, and competitive issues. We will look at a number of different businesses and subsectors that may have been unfamiliar to students prior to taking the course. We will make extensive use of outside speakers, many of whom will be true industry leaders within different sectors of the health care services industry. Speakers will address the current management issues they face in running their businesses as well as discuss the career decisions and leadership styles that enables them to reach the top of their profession. Students will be asked to develop a plan to both buyout and manage a specific health care services business of their choosing and will present their final plans to a panel of leading Health Care Private Equity investors who will evaluate their analysis. Prerequisites: HCMG 841 Senior healthcare executives and policy leaders will be engaged as guest speakers.

895. (BEPP895) Global Business Week.**955. MGMT HLTH CRE FOR ELDRLY. (A)****Ph.D. Seminars****900. Proseminar in Health Services Research. (C)** Harrington.

This seminar will explore empirical methods in health care research with an emphasis on applications in health care economics and finance. The methods covered include estimation with panel data, program evaluation models, qualitative and limited dependent variable models, stochastic frontier models, estimation with count data, and duration models. The readings consist of a blend of classic and recent empirical studies, including articles on the demand for health care and health insurance, tests for moral hazard and adverse selection, and estimation of provider cost functions. Students are required to conduct an econometric analysis of some issue within the health care field. With the permission of the instructor, the seminar is open to doctoral students from departments other than Health Care Systems.

SM 901. Seminar in Health Care Cost Benefit and Cost Effectiveness Analysis. (A) Polsky/Glick.

The purpose of this doctoral level course is to investigate the theory and practice of cost-benefit and cost-effectiveness analysis

as applied to health care. The three techniques to be examined are cost-effectiveness analysis with single dimensional outcomes, cost effectiveness analysis with multiple attributes (especially in the form of Quality Adjusted Life Years), and economic cost-benefit analysis. Valuation of mortality and morbidity relative to other goods will be emphasized. Students will be expected to develop written critiques of articles in the literature, and to design a new application of one of the techniques as a term project.

903. Economics of Health Care and Policy. (B) Town.

This course applies basic economic concepts to analyze the health care market and evaluate health policies. The course begins with an analysis of the demand for health, the derived demand for medical care and the demand for health insurance. The second part of the course examines the supply of medical care by physicians and hospitals, medical technology, and the role of managed care organizations. The implication of adverse selection, moral hazard, externalities, and asymmetric information will be explored. The third part of the course examines the rationale for government intervention in medical markets as well as the effectiveness and efficiency of various health policies, including: Medicare, Medicaid, price regulation of hospitals, physician payment reform, medical malpractice, uncompensated care, and physician manpower planning.

HISTORIC PRESERVATION (FA) {HSPV}

521. American Architecture. (A)
Wunsch.

This course is a survey of architecture in the United States. The organization, while broadly chronological, emphasizes themes around which important scholarship has gathered. The central purpose is to acquaint you with major cultural, economic, technological, and environmental forces that have shaped buildings and settlements in North America for the last 400 years. To that end, we will study a mix of "high-style" and "vernacular" architectures while encouraging you to think critically about these categories. Throughout the semester, you will be asked to grapple with both the content of assigned readings (the subject) and the manner in which authors present their arguments (the method). Louis Sullivan, for instance, gives us the tall office building "artistically considered" while Carol Willis presents it as a financial and legal artifact. What do you make of the difference? Finally, you will learn how to describe buildings. While mastery of architectural vocabulary is a necessary part of that endeavor, it is only a starting point. Rich or "thick" description is more than accurate prose. It is integral to understanding the built environment - indeed, to seeing it at all.

SM 528. (HIST528) American Vernacular Architecture. (M) St. George.

This course explores the form and development of America's built landscape-its houses, farm buildings, churches, factories, and fields--as a source of information on folk history, vernacular culture, and architectural practice.

530. American Domestic Interiors Before 1850. (C) Winkler.

The American domestic interior from the early British and French settlements in North America until 1850. Emphasis will be on the social, economic, and technological forces as well as the European influences that determined household decoration ranging from the decorative arts to floor, wall, and window treatments.

531. American Domestic Interiors. (B) Stutman.

This course will examine the American domestic interior from the seventeenth century through the twentieth century with

emphasis on the cultural, economic, and technological forces that determined the decoration and furnishing of the American home. Topics to be covered include the decorative arts; floor, wall and window treatments; and developments in lighting, heating, plumbing, food preparation and service, and communication technologies. In addition to the identification of period forms and materials, the course will give special emphasis to historical finishes. The final project will involve re-creation of an historic interior based on in-depth household inventory analysis and study. Several class periods will be devoted to off-site field trips.

538. Cultural Landscapes and Landscape Preservation. (M) Mason.

The course introduces the history and understanding of common American landscapes and surveys the field of cultural landscape studies. Methods of Methods of landscape preservation are also surveyed. The cultural-landscape perspective is a unique lens for understanding the evolution of the built environment, the experience of landscapes, and the abstract economic, political and social processes that shape the places where most Americans spend most of their time. The course will focus on the forces and patterns (natural and cultural) behind the shaping of recognizably "American" landscapes, whether urban, suburban, or rural. Methods for documenting and preserving cultural landscapes will be surveyed. Class discussions, readings, and projects will draw on several disciplines--cultural geography, vernacular architecture, environmental history, historic preservation, ecology, art, and more.

540. American Building Technology I. (A) Matero.

Much architectural writing--from Vitruvius to Le Corbusier--has drawn analogous comparisons between buildings and the human body. Like the skeleton, skin, and internal metabolic systems of the human corpus, buildings are comprised of a structure, infrastructure, and outer surface which are all connected and through which liquids, gases and solids pass. Traditionally, form depended in large part on systems of construction and the selection and manipulation of individual materials. Understanding architecture's materiality in terms of form and fabric, structure and skin, and mechanical systems is essential in understanding not only what a building is, but how it evolves over time. American Building Technology will be divided into two discreet six week modules conceived in succession and taught during

the second half of the first semester and first half of the second semester respectively. Module 1: Building Anatomy will examine traditional construction methods through a typological analysis of construction systems. Module 2: Building Archaeology will address the morphological evolution of a structure and its physical setting, sometimes known as "above ground archaeology." Since the physical fabric and its evidences of cultural alteration present one primary mode of inquiry, archaeological theory and method provide

an excellent means to recover, read, and interpret material evidence, especially in association with documentary and archival sources. The course is intended to introduce students in Historic Preservation to the physical realities of built form and its analysis through careful observation and description. Note: This course continues in the first half of the spring semester for another 0.5 CU.

541. American Building Technology II: Building Archaeology. (B) Matero.

Built works- be they barns or bridges, gardens or corn fields, palaces or pit houses - all embody something of their makers and users, and the prevailing social and cultural norms of the day. As a form of material culture, things- buildings and landscapes- are made and modified consciously and unconsciously, reflecting individual and societal forces at play. Since the physical fabric and its alteration present one primary mode of evidence, their investigation provides a critical form of research, especially in association (and often in contest) with archival documentary sources and oral histories. This course will examine the theories and techniques used to investigate the morphological evolution of built works, sometimes known as "above ground archaeology". Students will learn and apply methods relevant to the reading of architectural fabric. Methods of investigation will include absolute and relative dating techniques such as dendrochronology, finishes stratigraphy, mortar analysis, and various typological - seriation studies including framing, molding, fastener (nails and screws), and hardware analyses. Students are expected to use this knowledge in combination with the recording skills of HSPV 601 to record their assigned sites.

SM 551. Building Pathology. (B)

Henry. Prerequisite(s): HSPV 555 or one technical course in architecture.

This course addresses the subject of deterioration of buildings, their materials, assemblies and systems, with the emphasis

on the technical aspects of the mechanisms of deterioration and their enabling factors, material durability and longevity of assemblies. Details of construction and assemblies are analyzed relative to functional and performance characteristics. Lectures cover: concepts in durability; climate; psychrometric, soils & hydrologic; conditions; physics of moisture in buildings; enclosure, wall and roof systems; structural systems; and building services systems with attention to performance, deterioration, and approaches to evaluation of remedial interventions.

552. Building Diagnostics and Monitoring. (A) Henry.

Building diagnostics pertain to the determination of the nature of a building's condition or performance and the identification of the corresponding causative pathologies by a careful observation and investigation of its history, context and use, resulting in a formal opinion by the professional. Monitoring, a building diagnostic tool, is the consistent observation and recordation of a selected condition or attribute, by qualitative and/or quantitative measures over a period of time in order to generate useful information or data for analysis and presentation. Building diagnostics and monitoring allow the building professional to identify the causes and enabling factors of past or potential pathologies in a building and building systems, thus informing the development appropriate interventions or corrective measures. In the case of heritage buildings, the process informs the selection of interventions that satisfy the stewardship goals for the cultural resource. In the case of recently constructed buildings, the process informs the identification of envelope and systems interventions for improved performance and energy efficiency.

SM 555. Conservation Science. (B) Matero. \$30 Lab Fee.

This course provides an introduction to architectural conservation and the technical study of traditional building materials. Lectures and accompanying laboratory sessions introduce the nature and composition of these materials, their properties, and mechanisms of deterioration, and the general laboratory skills necessary for field and laboratory characterization. Knowledge of basic college level chemistry is required.

556. Documentation and Conservation of the Historic Landscape. (M) Staff.

"Landscape conservation" is a growing concern in contemporary preservation circles. It is a multi-faceted issue, drawing on the fields of landscape architecture, horticulture, architectural history, regional planning, and archaeology. This course aims to provide a comprehensive overview, a look at the state-of-the-art, including philosophical issues, attempts at international and national guidelines, evaluative/survey systems, technical investigation techniques, and selected case studies. Students will be asked to analyze and develop a preliminary conservation plan for a selected site in the Philadelphia area.

572. Preservation Through Public Policy. (B) Hollenberg.

This course explores the intersection between historic preservation, design and public policy, as it exists and as it is evolving. That exploration is based on the recognition that a network of law and policy at the federal, state and local level has profound impact on the ability to manage cultural resources, and that the pieces of that network, while interconnected, are not necessarily mutually supportive. The fundamental assumption of the course is that the preservation professional must understand the capabilities, deficiencies, and ongoing evolution of this network in order to be effective. The course will look at a range of relevant and exemplary laws and policies existing at all levels of government, examining them through case studies and in-depth analyses of pertinent programs and agencies at the local, state and federal level.

600. Documentation, Research, Recording 1. (A) Wunsch.

The goal of this class is to help students develop their understanding and utilization of materials that contextualize the history of buildings and sites. In order to gain first-hand exposure to the actual materials of building histories, we will visit a half-dozen key archival repositories. Students will work directly with historical evidence-both textual and graphic-and exercise their facility through projects. We will explore various forms of documentation, discussing each in terms of its nature, the motives for its creation, and some ways it might find effective use. Philadelphia is more our laboratory than a primary focus in terms of content, as the city is rich in institutions that hold over three centuries of such materials; students will find here both an exposure to primary documents of most of

the types they might find elsewhere, as well as a sense of the culture of such institutions and of the kinds of research strategies that can be most effective.

601. Documentation, Research, Recording II. (B) Matero/Mason/Faculty.

Documentation, Research, Recording II. This course provides an introduction to the survey and recording of historic buildings and sites. Techniques of recording include traditional as well as digitally-based methods including field survey, measured drawings, photography and rectified photography. Emphasis is placed on the use of appropriate recording tools in the context of a thorough understanding of the historical significance, form and function of sites. Required for first-year MSHP students; others by permission.

606. Historic Site Management. (B) Faculty.

The course focuses on management, planning, and decision-making for all types of heritage sites from individual buildings to historic sites to whole landscapes. Course material will draw on model approaches to management, as well as a series of domestic and international case studies, with the goal of understanding the practicalities of site management. Particular topics to be examined in greater detail might include conservation policy, interpretation, tourism, or economic development strategies.

SM 620. (COML625, FREN620) Seminar in American Architecture. (B) Wunsch.

Architectures of Commerce: Buildings and Landscapes of American Retail from the Colonial Era to the Present. Merchants and the "world of goods" have left an indelible mark on America's neighborhoods, cities, and regions. We will examine the structures and spaces in which commercial activities occurred- an excursion running the gamut from counting houses to warehouses, from pushcarts to mini-malls. Studying these buildings as distinctive types, we will also analyze the roles they have played in the American cultural landscape. Doing so requires forays into urban, economic, and cultural history. Close reading and student-led discussion form the course's backbone.

SM 621. Urban Conservation Seminar. (B) Mason.

Urban Conservation Seminar: Heritage and Urbanism in China. This seminar covers basic concepts, tools, history, theory and case studies in urban conservation-a specialist area of preservation bringing to

bear aspects of urban history, planning, design, development, policy and governance. The course will compare and contrast the experiences of European cities, where urban conservation has developed over centuries, and Asian cities that have been experiencing explosive growth and are informed by quite different theories of urbanism and heritage. A series of lectures, intensive readings, case studies, small writing projects and guest presentations will build familiarity with the breadth of practices nationally and internationally. The second half of the semester will include intensive project (over spring break and the second half of the term) studying urban conservation issues, histories and opportunities in one or two cities (yet to be determined).

L/L 624. Digital Media for Historic Preservation. (A) Hinchman.

A required praxis course designed to introduce students to the techniques and application of digital media for visual and textual communication. Techniques will be discussed for preservation use including survey, documentation, relational databases, and digital imaging and modeling.

625. Preservation Economics. (B)

Rypkema.

The primary objective is to prepare the student, as a practicing preservationist, to understand the language of the development community, to make the case through feasibility analysis why a preservation project should be undertaken, and to be able to quantify the need for public/non-profit intervention in the development process. A second objective is to acquaint the student with the measurements of the economic impact of historic preservation and to critically evaluate "economic hardship" claims made to regulatory bodies by private owners.

SM 637. Landscape Preservation Seminar. (M) Staff.

The seminar on the Common American Landscape concentrates on a selected topic which illuminates a typical land/or significant aspect of the American landscape in a particular time and place.

SM 638. Topics in Historic Preservation. (B) HSPV Faculty.

Spring 2016: This seminar will examine the role of sound in shaping modern urban spaces and life. While music plays a large part in the sounds of the city, we will focus on soundscapes more broadly. From the late 19th century through the present, and in geographies spanning from Paris to

Philadelphia, we will explore the making, meaning, and experience of sound for varied populations; the politics of sound as an instrument of power; and the policies of noise regulation. As an interdisciplinary seminar supported by the Mellon Humanities+Urbanism+Design Initiative, the course will bring together students and faculty from diverse fields to probe the subject of urban sound through the lenses of both theory and practice. We will read across a wide variety of disciplines, including urban and environmental history, sound studies, urban geography, the history of sensation, musicology, anthropology and critical theory. We will engage with sound archives, installations, films, and photographs, and also have an opportunity to make field recordings of our own. The format of the final project is flexible and could include a research paper, theoretical essay, visualizations, GIS mapping, sonic compositions, short film, or other types of media. Instructors: Francesca Ammon and Naomi Waltham-Smith.

SM 640. Contemporary Design in Historic Settings. (A) Hawkes.

Thoughtful contemporary design can add value and meaning to historic settings of any scale. Rigorous dialogue with history and context enriches contemporary design. This seminar immerses students in the rewarding yet challenging realm of design with landmarks and existing structures. It will encourage participants to create their own models for design and preservation planning through discussion of source materials that illustrate the political, cultural and aesthetic environments that have shaped regulation and design with heritage throughout the past century. Sketch problems set in Philadelphia and analysis of case studies from around the world will enable students to critique and communicate a range of responses to landmarks and historic contexts, and to explore the roles of significance, physical and intangible conditions in shaping appropriate responses.

650. European Conservation. Mason.

A three to four week summer course offered in different locations in Europe to teach international theories and methodologies of conservation as practiced there. Lectures, documentation, field work, and field trips will be involved. Past course locations included Italy, England and Turkey. Travel and residence fees may be extra. Offered every year.

L/L 656. Advanced Conservation Science. (C) Vatankhah. Prerequisite(s): HSPV 555, Conservation Science or Permission of the Instructor.

A methodological approach to the examination and analysis of historic building materials is introduced. Experimental design for conducting conservation research plus statistical analysis and modeling of research data will further complete the discussion. Practical analytical techniques appropriate for conservation practice including: classical and advanced instrumental techniques for qualitative and quantitative analysis of organic and inorganic materials will be discussed. Theoretical and practical applications of advanced surface techniques for both elemental and molecular/composition analysis as well as applications of nanotechnology and nanomaterials in conservation will be covered. Students will also learn about deterioration processes and long term effects of conservation treatments through accelerated aging techniques. Course materials will be taught through lectures, invited speakers, lab visits and laboratory sessions by practicing learned techniques and procedures on related masonry samples, along with provided course readings and literature.

660. Theories of Historic Preservation. (A) Mason. Prerequisite(s):

Instructor's permission required for any student not registered in the Graduate Program in Historic Preservation. Theories of historic preservation serve as models for practice, integrating the humanistic, artistic, design, scientific and political understandings of the field. This course examines the historical evolution of historic preservation, reviews theoretical frameworks and issues, and explores current modes of practice. Emphasis is placed on literacy in the standard preservation works and critical assessment of common preservation concepts. In addition to readings and lectures, case studies from contemporary practice will form the basis for short assignments. Professional ethics are reviewed and debated. The instructor's permission is required for any student not registered in the Graduate Program in Historic Preservation. Note that the course is organized in two parts; the first half, on the basics of preservation theory, is taught in the fall semester while the second half takes place in the spring semester and engages advanced topics. Note: this course continues in the second half of the spring semester for another 0.5 CU.

SM 661. Theories of Historic Preservation II. (B) Mason.

Theories of historic preservation serve as models for practice, integrating the humanistic, artistic, design, scientific and political understandings of the field. HSPV 661 builds on HSPV 660, which examines the historical evolution of historic preservation, reviews theoretical frameworks and issues, and explores current modes of practice. HSPV 661 engages advanced topics such as cultural landscape theory, economics of preservation, sustainability and environmental conservation, social justice, and urban design. In addition to readings and lectures, case studies from contemporary practice will be used to examine theories in practice. The principal assignment will be a term research paper. The instructor's permission is required for any student not registered in the Graduate Program in Historic Preservation. (Note that the course is the second of two parts; the first half, on the basics of preservation theory is taught in the fall semester while the second half takes place in the spring semester.)

671. Historic Preservation Law. (B) Michael.

Introduction to the legal framework of urban planning and historic preservation, with special emphasis on key constitutional issues, zoning, historic districts, growth management, and state and local laws for conserving historic buildings.

701. Historic Preservation Studio. (A) Mason/Wang/Hawkes.

The studio is a practical course in planning architectural, urban and regional conservation interventions, bringing to bear the wide range of skills and ideas at play in the field of historic preservation. Recognizing that historical areas are complex entities where cultural and socio-economic realities, land use, building types, and the legal and institutional setting are all closely interrelated, the main focus of the studio is understanding the cultural significance of the built environment, and the relation of this significance to other economic, social, political and aesthetic values. Through the documentation and analysis of a selected study area, studio teams undertake planning exercises for an historical area, consult with communities and other stakeholders, carry out documentation and historical research, and create policies and projects. The studio seeks to demonstrate how, through careful evaluation of problems and potentials, preservation planning can respond to common conflicts between the conservation

of cultural and architectural values and the pressure of social forces, economic interest, and politics.

The studio focuses on a specific site in need of comprehensive preservation effort, most often in Philadelphia proper. Students work in teams as well as on individual projects. Consultation with local preservation and planning groups, community representatives, and faculty advisors informs research and analyze the study area, helping to define major preservation planning problems and opportunities, formulate policies, and propose preservation plans and actions.

SM 703. Topical Studio/Seminar: Urban Regeneration in Quito. (B) Rojas.

This 1-CU course-combining seminar and studio teaching methods-will focus on the opportunities and challenges posed by the sustainable conservation of urban heritage areas with a particular focus in the historic centers of Latin America. Adapting urban heritage sites and buildings for contemporary uses with proven demand is a strategy that is gaining acceptance around the world and is considered more capable of sustaining the conservation of urban heritage than traditional conservation methods based on the strict preservation of the physical characteristics and uses. However, the adaptive rehabilitation of historic neighborhoods and buildings poses significant conceptual and design challenges.

Class sessions will explore the conceptual problems involved in the adaptive rehabilitation of heritage building and public spaces in historic centers including all historic periods: pre-Columbian, colonial, republican and those from the modern movement. The methodology includes the analysis and discussion of case studies of successful listing and adaptive rehabilitation efforts. The Studio exercise will focus on the practical challenges posed by this approach to heritage conservation in the historic center of Quito in Ecuador, the first urban heritage area included in UNESCO's World Heritage List. The students will work in close cooperation with government officials in Ecuador in charge of managing the historic center.

710. Thesis I. (A) Faculty.

Students are admitted to thesis after completion of two semesters or their equivalent in the graduate program. Theses should be based on original research and relate to each student's elected concentration in history, theory, technology, planning or design. Thesis

proposals are required at the time of fall enrollment, and during the fall semester thesis students are required to defend their topics before preservation faculty and students. Thesis guidelines, available in the Historic Preservation office, describe other details.

711. Thesis II. (B) Faculty.

Students are admitted to thesis after completion of three semesters or their equivalent in the graduate program. Theses should be based on original research and relate to each student's elected concentration in history, theory, technology, planning, or design. Thesis proposals are required at the time of fall enrollment, and during the fall semester thesis students are required to defend their topics before preservation faculty and students. Thesis guidelines, available in the Historic Preservation office, describe other details.

SM 713. Rural Studio/Seminar. (B) HSPV Faculty.

The preservation of rural places -- landscapes, villages and towns -- presents a widespread and urgent challenge. Economic restructuring, metropolitan development, and other social forces continue to challenge the integrity and vitality of rural communities and landscapes across the U.S. This seminar/studio course explores means of activating rural places while retaining their character. Issues of abandonment and underutilization, industrial and agricultural restructuring, environmental conservation, and new economic opportunities will be explored. Tools from historic preservation, land conservation, economic development, community engagement and ecological design will be considered and applied. Research and focused readings will establish key issues, case studies, innovative ideas and institutions; students will create focused proposals for the conservation and redevelopment of a chosen study site in southeastern Pennsylvania.

SM 739. Conservation Seminar: Masonry/Wood. (A) Ingraffia/Fearon.

Prerequisite(s): Pre-requisite: HSPV 555 Conservation Science and permission needed from department.

Module 1: Masonry - Roy Ingraffia. This seminar will offer an in-depth study of the conservation of masonry buildings and monuments with a particular focus on American building stone. Technical and aesthetic issues will be discussed as they pertain to the understanding required for conservation practice. Part 1 will address a

broad range of building stone, masonry construction technologies, and deterioration phenomenon; Part 2 will concentrate on conservation methodology as well as past and current approaches for the treatment of stone masonry structures. The subject will be examined through published literature and case studies. Students will gain practical experience through lab and field exercises and demonstrations. The subject matter is relevant to interested students of conservation and preservation, architecture, landscape architecture, architectural history, and archaeology.

Module 2: Wood - Andrew Fearon.

Prior to the twentieth century, most structures found in the built environment relied upon wood as a primary material for both structural members and decorative features. An understanding of the physical properties as well as the historic application of this organic material provides the basis for formulating solutions for a wide spectrum of conservation issues. As the scope of preserving wooden structures and wooden architectural elements is continually broadened, new methods and technology available to the conservator together allow for an evolving program - one that is dependent upon both consistent review of treatments and more in depth study of craft traditions. This course seeks to illustrate and address material problems typically encountered by stewards of wooden cultural heritage - among them structural assessment, bio-deterioration, stabilization and replication techniques. Through a series of lectures and hands-on workshops given by representative professionals from the fields of wood science, conservation, entomology, engineering, and archeology, theoretical and practical approaches to retaining wooden materials will be examined with the goal to inform the decision making process of future practicing professionals.

Pre-requisite: HSPV 555 Conservation Science and permission needed from department.

SM 740. Conservation Seminar: Wood/Masonry. (B) Fearon/Ingraffia.
Prerequisite(s): HSPV 555 Conservation Science.

Module 1: Masonry - Roy Ingraffia This seminar will offer an in-depth study of the conservation of masonry buildings and monuments with a particular focus on American building stone. Technical and aesthetic issues will be discussed as they pertain to the understanding required for conservation practice. Part 1 will address a broad range of building stone, masonry construction technologies and deterioration phenomenon; Part 2 will concentrate on

conservation methodology as well as past and current approaches for the treatment of stone masonry structures. The subject will be examined through published literature and case studies. Students will gain practical experience through lab and field exercises and demonstrations. The subject matter is relevant to interested students of conservation and preservation, architecture, landscape architecture, architectural history, and archaeology.

Module 2: Wood - Andrew Fearon.

Prior to the twentieth century, most structures found in the built environment relied upon wood as a primary material for both structural members and decorative features. An understanding of the physical properties as well as the historic application of this organic material provides the basis for formulating solutions for a wide spectrum of conservation issues. As the scope of preserving wooden structures and wooden architectural elements is continually broadened, new methods and technology available to the conservator together allow for an evolving program - one that is dependent upon both consistent review of treatments and more in depth study of craft traditions. This course seeks to illustrate and address material problems typically encountered by stewards of wooden cultural heritage - among them structural assessment, bio-deterioration, stabilization and replication techniques. Through a series of lectures and hands-on workshops given by representative professionals from the fields of wood science, conservation, entomology, engineering, and archeology, theoretical and practical approaches to retaining wooden materials will be examined with the goal to inform the decision making process of future practicing professionals.

SM 741. Special Topics: American Marble. (D) MATERO. Prerequisite(s): HSPV 555.

Fall 2016 - HSPV-741-301 - Special Topics in Historic Preservation: American Marble. Nearly every culture in the Old and New World has made use of natural stone for its buildings and monuments, whether as found rubble or ledge rock, cut and dressed load-bearing dimensional stone, or thin veneer cladding on a brick, steel or concrete frame. In North America, indigenous cultures of the Southwest demonstrated a highly sophisticated and long-lived tradition of masonry building long before European contact as evidenced by the surviving structures at Chaco Canyon, Mesa Verde, and other ancient settlements. Beginning with the Spanish construction of massive masonry fortifications and churches in the sixteenth

and seventeenth centuries in New Spain and the rise of academic classicism in the eighteenth century European-American colonies, the preference for building in stone has carried well into the present despite changes in taste and technology. Ideologically as well as functionally, stone construction has embodied and connoted permanence and durability wherever it is found.

There is an abundant variety of stone in the United States and virtually every variety of rock firm enough to hold together has been put to use as building stone. The restoration and conservation of historic masonry structures represent a major component of the architectural and construction industry yet little technical information is readily available on the nature of these obsolete materials or on the appropriate methods for their repair and restoration. This seminar will offer an in depth study of American marble utilizing the newly acquired archives and stone collection of the Vermont Marble Company. Aesthetic and technical issues will be discussed as they pertain to the total understanding required for conservation practice. Part 1 will focus on the characterization and deterioration of marble and the technology related to its extraction and use in architecture and monument design and construction. The subject will be examined through research topics related to the Vermont Marble collection. Part 2 will concentrate on past and current methods for the treatment of marble with a focus on the Hood Cemetery Entrance Gate in Germantown. The subject matter is relevant to interested students of conservation and preservation, architecture, landscape architecture, architectural history, and archaeology.

SM 743. Conservation Studio/Seminar. (C) Matero.

Prerequisite(s): HSPV 555 Conservation Science.

Pit and Quarry: The Cement and Slate Industries of Lehigh Valley 2013 marked the 50th anniversary of Kenneth Hudson's groundbreaking book and manifesto on "industrial archaeology," the "mongrel" field he first named as the bastard offspring of industry and archaeology. Today the remains of industry past dominate the global landscape. Urban and rural America are littered with the evidence of the last two centuries of the country's former industrial prowess and many of these places, now abandoned, hold latent value for their transformation and reuse. Despite the recent popularity of industrialchic, critics now question whether this form of "ad hocism"-that is, the improvisation of

new, unrelated uses devoid of meaning and interpretation-has led to , at best, a polite taming of industrial heritage, and, at worst, its disfigurement in the name of gentrification and short-sighted corporate marketing. A shift in thinking is now required for more sustainable preservation: thematic approaches that examine the problems and potential based on the original industrial processes; consideration and interventions at the landscape scale, ecological as well as architectural thinking, and finally, human connections through past and current associations.

Slate World: The Pennsylvania "Slate Belt," an area of only 22 square miles, lies approximately 50 miles to the northwest of Philadelphia and just south of Blue (Kittanning) Mountain between the Delaware and Lehigh Rivers. The first quarries opened in the 1830s, but significant growth followed in the first decade of the twentieth century when Lehigh Valley accounted for approximately half the slate produced in the United States, eventually becoming the greatest slate producing region in the world. Cement Age: Reinforced concrete would prove to be the modern material of the new century and in the United States, the creation of the first Portland cement plants in the Lehigh Valley in 1871 at Coplay, would give rise to an industry that would forever change the face of America and the world. By 1901 the Atlas Portland Cement Co. in Northampton, PA was the largest cement company in the United States - more than twice the size and probably five to ten times the size of most firms in the industry. Today the valley is still the country's center of cement production but automation has rendered the old plants nearly vacant, their historic mills and kilns, though still impressive, largely abandoned.

This advanced research studio builds on a current PennPraxis grant focused on the study of the cement and slate industries of Pennsylvania's Lehigh Valley. It is funded by the J. M. Kaplan Fund and directed by Frank Matero, Professor of Architecture and Historic Preservation, and aims to bring a more critical approach to the identification, evaluation, and preservation of the most important and neglected of American industrial sites. Using information already collected, students will identify specific plants within the cement and slate belts and develop conservation programs for their preservation and interpretation. Focus will be on the industrial remains: buildings, structures, machinery, and features and involve their physical recording, condition survey, and analysis. Interested students should contact Frank Matero at fgmatero@design.upenn.edu

SM 744. Architectural Archaeology: Building Lives. (B) Matero.

Time, like space, is all around us. Its evidence is visible in the natural world as physical change. In our own fabricated material works, time exerts its presence through the tell-tale signs of stylistic and technological anachronism and material degradation. It is through these indicators that we confront time indirectly and attempt to position a thing or place in relation to the present. How buildings and landscapes are received by each generation depends on the specific conditions of time and place. Built works, be they barns or bridges, gardens or corn fields, palaces or pit houses, all reflect something of their maker and user as well as the prevailing social and cultural norms. Such trajectories are dependent on many diverse factors; however once consciously examined, all creative works under consideration for their ability to communicate to us; to have relevance in ways consistent or new to their original authorship and to contemporary society. In our efforts to relate to buildings and places from the past, we use time as the primary measure from the present and historical narrative to describe what we know.

As a form of material culture, buildings and landscapes are made and modified both consciously and unconsciously, directly and indirectly, thus reflecting individual and societal forces at play. Since the physical fabric and its evidences of alteration present one primary mode of inquiry, archaeological theory and methodology provide an excellent means to recover, read, and interpret that evidence in association with documentary and archival sources.

This course will examine the theories and techniques necessary to investigate the morphological evolution of a structure and its physical setting. Students will learn and apply methods relevant to the reading of physical fabric as demonstrated and applied to a case site. The coursework assumes a knowledge of the core curriculum in historic preservation and is therefore recommended for advanced (i.e. second year) students.

SM 746. CONSERVATION & MGMT.

SM 747. (ANTH508) Conservation of Archaeological Sites and Landscapes. (C) Matero.

This seminar will address the history, theories, and practice of the preservation and display of archaeological sites and landscapes. The course will draw from a wide range of published material and experiences representing both national and international contexts. Topics will include

site and landscape documentation and recording; site formation and degradation; intervention strategies including interpretation, display, and exhibits; tourism and development, and legislation, policy, and contemporary issues of descendant community ownership.

The course is organized as a seminar incorporating readings, lectures, and discussions focused on major themes. Readings have been selected to provide exposure to seminal works in the development of theory and method as well as current expressions of contemporary practice. Readings and discussions will be complemented by a field project. This course is open to all first and second year preservation students and all others interested in the conservation and management of archaeological sites.

748. Preservation Case Studies: Advanced Theory. (A) Mason.

Preservation Case Studies will bring cutting-edge theoretical debates, current issues and the latest work of faculty and guests into the HSPV curriculum. Coordinated by the Chair, but populated with a number of other faculty, practitioners and guest scholars, the course will sample and explore current theoretical, conceptual, political and practical issues facing the historic preservation field. The course will serve two main purposes: First, to present critical and cutting-edge cases and issues in preservation in to the preservation curriculum and the discourse of PennDesign; second, present an opportunity for second-year master's and PhD to devote an elective CU to the advanced study of preservation theory. It will revolve around a series of curated, public talks - scheduled at an hour enabling the entire HSPV Program to attend the talks - as well as course-center roundtable discussions. The course will be offered for credit as an "Advanced Theory" seminar for second-years or PhD students; attendance by all Program students will be expected at the public talks. The schedule of topics and talks will be finalized in August, and will likely include: recent social-scientific studies of historic preservation impacts; new architectural works incorporating preservation; systems research and its implications for historic preservation theory; and the politics of preservation advocacy.

750. Heritage Conservation Praxis.

(L) Matero & Guest Faculty.

Prerequisite(s): HSPV 540 American Building Technology or HSPV 555 Conservation Science.

Architectural Conservation Praxis: Traditional Buildings/Traditional Practice 1 course unit. Studio. Pre-requisite: HSPV-540 or HSPV-555. This is an intensive 4 week summer course designed for students pursuing studies in architectural conservation and builds on Penn Preservation's core curriculum and the first year year conservation technology courses. The syllabus is organized around project fieldwork supplemented by lectures, demonstrations, exercises, and site visits that will allow students to experience firsthand the design and construction of vernacular buildings and the application of traditional craft-based methods to preserve them. Through a partnership with the National Park Service and the Vanishing Treasures Program, students will engage in the recording, survey, and treatment of timber and masonry structures under the supervision of Penn, NPS, and guest faculty. The course will be based in Mancos, Colorado for the first two weeks during which time students will work with with instructors on traditional construction methods including timber, brick masonry, and adobe. Students will then focus their final two weeks on field projects at selected NPS parks including Bar BC Dude Ranch at Grand Teton National Park, WY and Mesa Verde, CO. The course will also examine preservation issues related to the rich

vernacular landscape and National Park heritage with visits to other sites in the area. Accommodation will be shared cabins and meals will be a communal event and prepared by a cook. Weekends (Saturday and Sunday) are free and on your own. Cost for meals (breakfast, lunch and dinner) will be \$20/day and some travel will be paid by the course budget - details to come. Students are requested to bring laptops, cameras, sleeping bags and all personal items. More information available at <http://www.conlab.org/acl/edtr/Praxis/edtr/praxis.html>. Course enrollment is by permit only. Please contact the HSPV Dept. at pennhspv@design.upenn.edu. Course dates are 7/25/2016-8/20/2016.

760. Preservation Planning Praxis.

(L) Rypkema/Mason.

Description: 1 course unit. Studio. Pre-requisite: HSPV 572 or 625 or other planning-centered coursework. This course is designed to meet two broad learning outcomes: first, solidify student's knowledge of basic city and regional planning concepts, systems and methods as applied to historic cities; second, and more extensively, apply this knowledge in a practical situation relevant to contemporary preservation planning practice. The course will be conducted over three weeks in the early summer and will have two distinct components: a short, first part of the course will be held in Philadelphia over three days in late May. It will focus on readings, lectures, and discussions about preservation planning in general; Randy Mason will lead this part of the course. The second, international part of the course will take place in Yangon, the capital of Myanmar. Lasting approximately two weeks, the course's international component will center on the application of preservation-led planning and development strategies to the dynamic center of this large Asian city. Some travel will be paid by the course budget - details to come. Course enrollment is by permit only. Please contact the HSPV department at pennhspv@design.upenn.edu.

770. Interpretation, Public History and Site Management Praxis. (L)

Mason.

Description: 1 course unit. Studio. Pre-requisite: HSPV 600 and 601; 606 preferred. This course is designed to meet two broad learning outcomes: first, solidify graduate students' basic knowledge of public history issues and process; second, apply research and communication skills to the interpretation of specific heritage sites in the context of professional site management. The course will be conducted over three weeks in the early summer and will have two distinct components. The first part of the course will be held on campus over the first week of the three-week course. It will focus on three overall subjects: close reading and debate of the literature on public history, review of case studies, and guest lectures; on interpretation best-practices and philosophies; workshops on interpretive tools. The second part of the course will take place at heritage sites all along the East Coast (specific list TBD, to include sites in New York, Washington and points

between). Focus of this fieldwork will be evaluation of sites' management and interpretive experiences. The third part of the course is centered on Cliveden and its regional connections to former plantations in Delaware. Students will work with archives and site experiences to research, design and

and implement an interpretation project. Some travel will be paid by the course budget - details to come. Course enrollment is by permit only. Please contact the HSPV Dept. at pennhspv@design.upenn.edu.

780. Architectural Conservation Advanced Praxis. (C) Matero.

Offering training beyond the classroom, this advanced praxis in architectural conservation focuses on the integration of theory and practice. A written project proposal must be submitted for consideration and approval by faculty, and a written defense of the work must be presented after the completion of the project. Students must have completed the conservation emphasis within the Master of Science program in Historic Preservation at the University of Pennsylvania.

790. HSPV Summer Institute: First-year Historic Preservation Workshop. (L) Mason.

The Workshop is an orientation course designed to prepare incoming, first-year graduate students for the intense coursework of their first semester. Generally, the Workshop orients students to the issues and methods of the core MSHP curriculum, begins familiarizing students to the resources of Philadelphia, and begins skill-building exercises. The workshop employs lectures, exercises, and fieldtrips to introduce some of the important skills, questions, and issues that will be at the center of first year's work in the Program. Documentation, descriptive analysis of buildings and places, and critical historiography are particular emphases. The Workshop also constitutes an extended introduction to the Program's faculty and the students in first-year and second-year cohorts. Course enrollment is by permit only. Please contact Amanda Bloomfield (HSPV Dept.) at amab@design.upenn.edu.

999. Independent Study. (C) Faculty.

An opportunity for a student to work on a special project under the guidance of a faculty member.

HISTORY (AS) {HIST}

ANCIENT HISTORY (ANCH): All courses taken in Ancient History (ANCH) at the University of Pennsylvania will be considered equivalent to courses taken within the History Department.

038. (ENGL043) Early American Literature.

An introduction to the English-language literatures of North America and the Caribbean from the late 16th to the early 19th centuries. Works in various genres by Thomas Hariot, John Smith, William Bradford, Mary Rowlandson, Anne Bradstreet, Jonathan Edwards, Sarah Knight, Franklin, Jefferson, Wheatley, Freneau, Bryant, Poe, and many others.

SM 234. (URBS234) TOPICS IN TRANSNATIONAL. (C)

393. (EALC185, ECON029) South Korea: Economy & Policy. Kim.

South Korea ("Korea" hereafter) has achieved a remarkable economic development during the past half a century. Originally a poor agrarian economy, Korea joined the Organization for Economic Cooperation and Development (OECD), a club of 34 wealthy nations, as a second member from Asia after Japan. Furthermore, Korea emerged from an aid-recipient to a donor country. Many developing economies in particular took note, seeking to learn policy lessons from Korea's development experiences. Taught by a former governor of the Bank of Korea, a Penn Economics Ph.D., this course covers three themes. The first part examines the sources of successes for rapid industrialization with maintaining fair income distributions during the first five decades since Korea's liberation from the Japanese colonial rule in 1945. Government-led development strategy was instrumental to bringing such remarkable socioeconomic achievements. Part II analyzes how Korea overcame major economic crises in the late 1990s and in recent years. Korea recovered more quickly than most of the neighboring economies experiencing crises at the same time. Third, we examine Korea's continued efforts to integrate its economy into the global economy further through, among others, Free Trade Agreements (FTA) with advanced economies such as the United States.

SM 528. (HSPV528) AMER VERNACULAR ARCHITECT.

General Survey Courses (1-99)

L/R 001. Making of the Modern World. (A) History & Tradition Sector. All classes. Cassanelli/Hahn.

How did the world we now live in come to be? Is globalization a recent development or does it have a history of its own? At what point can we say that a world economy emerged and what sort of relations of production and distribution linked it together? When did people start thinking and acting as citizens of nations rather than as subjects of rulers or members of religious or ethnic communities, and what were the consequences? How should we conceptualize the great revolutions (French, American, Russian, Chinese) that would determine the landscapes of modern global politics? This course is designed to help us think about the "making of the modern," not by means of an exhaustive survey but by exploring a range of topics from unusual perspectives: piracy, patriotism, prophecy; global struggles for political and human rights, drivers of war and peace, capitalism, nationalism, socialism, fascism, fundamentalism; communication and culture.

L/R 011. Deciphering America. (C) History & Tradition Sector. All classes. Brown/Licht.

This course examines American history from the first contacts of the indigenous peoples of North America with European settlers to our own times by focusing on a few telling moments in this history. The course treats twelve of these moments. Each unit begins with a specific primary document, historical figure, image, location, year, or cultural artifact to commence the delving into the American past. Some of these icons are familiar, but the ensuing deciphering will render them as more complicated; some are unfamiliar, but they will emerge as absolutely telling. The course meets each week for two 50-minute team-taught lectures and once recitation session. Course requirements include: in-class midterm and final exams; three short paper assignments; and punctual attendance and participation in recitations.

023. (NELC102) Intro to Middle East.

L/R 024. (ANCH025, NELC101) Introduction to the Ancient Near East. (D) History & Tradition Sector. All classes. Frame.

See primary department (NELC) for a complete course description.

L/R 030. The Emergence of Modern Europe. (C) History & Tradition Sector. All classes. Moyer.

This course traces the formation of European society, politics and culture from its earliest days through the era of the Reformation, ca. 1000-1600 CE. Major themes will include: politics and power; law and the state; economics and trade; religion; learning and the rise of universities; social organization; everyday life. The reading and analysis of primary sources from each era will be important in understanding Europe's key features and development.

L/R 031. Making and Breaking European Hegemony. (C) History & Tradition Sector. All classes. Holquist and Safley.

HIST 031 will trace the dramatic rise and fall of Europe's global hegemony during the period roughly from 1450 to 1950. Among the major themes we will examine are: states and power, borders and resistance, race and genocide, economics and oppression, ideas and revolution, the building and change of hierarchies of gender and power. Truly, a dramatic story.

The objectives of the course are: 1) To serve as an introduction to the study of history for majors and non-majors alike, and to teach the critical analysis of historical sources; 2) to teach substantive knowledge of European history; 3) to provide a foundation for further study of the European past. No previous background in European or World history is required.

040. Early Modern Europe, 1450-1750. (C) History & Tradition Sector. All classes. Safley.

This course examines those European developments which contributed to the world we understand as modern. Special emphasis will be placed on the transformation of Europe through the advent of new technologies, the creation of a global economy, the consolidation of territorial states, the rise of effective, central governments, the dissolution of religious unity, and the dialect between modern and traditional world views.

048. (RUSS048) The Rise and Fall of the Russian Empire, 1552-1917. (C) History & Tradition Sector. All classes. Nathans/Holquist.

How and why did Russia become the center of the world's largest empire, a single state encompassing eleven time zones and over a hundred ethnic groups? To answer this question, we will explore the rise of a distinct political culture beginning in

medieval Muscovy, its transformation under the impact of a prolonged encounter with European civilization, and the various attempts to re-form Russia from above and below prior to the Revolution of 1917. Main themes include the facade vs. the reality of central authority, the intersection of foreign and domestic issues, the development of a radical intelligentsia, and the tension between empire and nation.

L/R 049. (RUSS049) The Soviet Century, 1917-1991. (C) History & Tradition Sector. All classes. Nathans/Holquist.

Out of an obscure, backward empire, the Soviet Union emerged to become the great political laboratory of the twentieth century. This course will trace the roots of the world's first socialist society and its attempts to recast human relations and human nature itself. Topics include the origins of the Revolution of 1917, the role of ideology in state policy and everyday life, the Soviet Union as the center of world communism, the challenge of ethnic diversity, and the reasons for the USSR's sudden implosion at the end of the century. Focusing on politics, society, culture, and their interaction, we will examine the rulers (from Lenin to Gorbachev) as well as the ruled (peasants, workers, and intellectuals; Russians and non-Russians). The course will feature discussions of selected texts, including primary sources in translation.

050. England and the British Isles to 1707. (C) History & Tradition Sector. All classes. Todd.

The subject of this course is the history of the British Isles from the Roman Conquest in 43AD to the creation of the United Kingdom in 1707. Between these two dates the various societies and cultures in the British Isles were brought into the orbit of the Roman Empire, converted to Latin Christianity, and developed distinctive cultures and strong ties with the Continent. From the twelfth century on, the kingdom of England began to exert its power over Wales, Ireland, and Scotland, although English power waxed and waned in these areas between the twelfth and the seventeenth centuries. The Anglo-Norman continental empire of the Plantagenet dynasty also played a large part in shaping the English monarchy, as did the playing out of the Hundred Years War, the internal divisions in fifteenth-century English society, and the rise of the Tudor-Stuart dynasty.

051. MODERN BRITAIN, 1783-2000: EMPIRE, EXPANSION, AND DEMOCRACY. (C) History & Tradition Sector. All classes. CHASE-LEVENSON.

This course surveys British history from the eighteenth century to the present. In two centuries, Britain built an empire that ruled over a quarter of the globe and became the world's leading economy. In 2015, the Empire is gone, but coincident with its loss, Britain gained a welfare state and retained the role as a powerhouse of culture and finance. Themes emphasized in the course include national identity, class, political reform, war, and imperial interaction. How did Britain come to dominate the world economy and what did this dominance look like? How should we understand its role in the world today? Do the Beatles, the Royal Family, and Amy Winehouse add up to a "Cool Britannia" that has somehow "made up" for the loss of the Empire? Using written and visual primary sources, we'll look at all of these questions as we study the birth and development of modern Britain.

054. (COML052) Books that Made History. Moyer.

It is often said that books reflect the society in which they were written. Yet many books--and their authors--shaped society, and changed how people understood the world around them. In this course we will focus on a variety of texts from the world of Rome to 1600, the era in which European society took form. In each case, we will seek not only to understand the work itself, but also how it affected the lives and the thought of its readers. Works will range from Cicero and the Biblical New Testament to Luther and Machiavelli.

055. Reading the Classics. Feros.

In this course we will study the early roots of Western culture--the Biblical, Greek and Roman traditions--as well as how sixteenth- and seventeenth-century European authors reproduced, rethought and reshaped these early traditions. Instead of reading and discussing the required texts according to the date when they were written (first the early traditions and ending with the Renaissance views), we will focus our attention on a few themes that were central concerns to those living in Classic and Renaissance times, and that continue to influence modern ways of thinking and acting in Western societies: conceptions of God and the place of religion in society; nature of power and authority, and individuals' rights and duties; good, evil, and ethical philosophy; views on women, their nature and roles in society; ethnography and the perception of other

cultures and societies. In addition to reading and discussing several of the biblical books--Genesis, Exodus, the Book on Revelation--we will study other seminal classical works--Sophocles' *Antigone*, Aristotle's *Politics* and *Ethics*, Herodotus' *The Histories*; Plato's *Apology*-- and works by Michel de Montaigne, Maria de Zayas y Sotomayor, Marie de Gournay, Christopher Marlowe, William Shakespeare, and several others. We will also work with books published in the last decades, analyzing the

classics and their reception in various periods of history, but also books that analyze what the classics tell us today--Dreyfus and Kelly's *All Things Shining*, *Reading the Western Classics* to find meaning in a secular Age; Anthony Grafton's *Bring Out Your Dead: the Past as Revelation*; James Miller, *Examined Lives*, from Socrates to Nietzsche; and Sarah Bakewell, *How to Live: Or a Life of Montaigne in One Question and Twenty Attempts at an Answer*.

L/R 070. (AFRC070, LALS070) Colonial Latin America. (A) History & Tradition Sector. All classes. Walker. Fulfills History & Tradition Distribution Requirement.

This course provides an introduction to the broad literature on Latin America's rich colonial history. We will begin by tracing some of the early origins of - and points of contact between - the Indian, Iberian, and African men and women who formed the basis of colonial society. As the course progresses, we will explore the variety of ways in which colonial subjects lived, worked, ate, worshipped, and socialized. Lectures and reading assignments will draw upon a variety of sources, including court cases, artistic renderings, city maps and street plans, travel accounts of visits to the regions, and the material, cultural, and intellectual products made possible by the wealth and dynamism of the seventeenth and eighteenth centuries. The course will conclude with an analysis of the Age of Revolutions, a period of dramatic upheaval that remains at the center of lively scholarly debates. By the end of the semester, students will be able to engage the key questions driving these debates, the most important of which, perhaps, is: what is Latin America's colonial legacy?

071. (LALS071) Latin American Survey 1782-Present. (B) History & Tradition Sector. All classes. Farnsworth-Alvear.

Surveys Latin American and Caribbean history from the Tupac Amaru Revolt to the present. We will examine the legacy of

Spanish colonialism and slavery, movements for national and cultural independence, twentieth-century radicalism, and the politics of race in contemporary Latin America. Readings include fictional as well as analytical representations, and a film series will accompany the course.

072. (LALS072) Introduction to Latin American and Latino Studies. (A) Farnsworth-Alvear.

Designed to introduce students to the interdisciplinary field of Latin American and Latino Studies, this is a seminar oriented toward first and second year students. Readings will range widely, from scholarly work on the colonial world that followed from and pushed back against the "conquest"; to literary and artistic explorations of Latin American identities; to social scientists' explorations of how Latinos are changing the United States in the current generation.

L/R 075. (AFRC075, AFST075) Africa Before 1800. (B) History & Tradition Sector. All classes. Babou.

Survey of major themes and issues in African history before 1800. Topics include: early civilizations, African kingdoms and empires, population movements, the spread of Islam, and the slave trade. Also, emphasis on how historians use archaeology, linguistics, and oral traditions to reconstruct Africa's early history.

L/R 076. (AFRC076, AFST076) Africa Since 1800. (A) History & Tradition Sector. All classes. Cassanelli.

Survey of major themes, events, and personalities in African history from the early nineteenth century through the 1960s. Topics include abolition of the slave trade, European imperialism, impact of colonial rule, African resistance, religious and cultural movements, rise of nationalism and pan-Africanism, issues of ethnicity and "tribalism" in modern Africa.

L/R 081. (NELC031) History of the Middle East Since 1800. (A) History & Tradition Sector. All classes. Kashani-Sabet/Troutt-Powell.

A survey of the modern Middle East with special emphasis on the experiences of ordinary men and women as articulated in biographies, novels, and regional case studies. Issues covered include the collapse of empires and the rise of a new state system following WWI, and the roots and consequences of the Palestinian-Israeli conflict, the Iranian revolution and the U.S.-Iraq War. Themes include: the

colonial encounter with Europe and the emergence of nationalist movements, the relationship between state and society, economic development and international relations, and religion and cultural identity.

084. (NELC032) Topics in 20th C. Middle East. (C) Kashani-Sabet.

If "the clash of civilizations" is the first image that jumps to mind when thinking about the modern Middle East, then this is the course for you. From the familiar narratives about the creation of modern nation-states to the oft-neglected accounts of cultural life, this course surveys the multi-faceted societies of the twentieth-century Middle East. Although inclusive of the military battles and conflicts that have affected the region, this course will move beyond the clichés of war and conflict in the Middle East to show the range of issues and ideas with which intellectuals and governments grappled throughout the century. The cultural politics and economic value of oil as well as the formation of a vibrant literary life will be among the topics covered in the course. By considering illustrative cultural moments that shed light on the political history of the period, this course will adopt a nuanced framework to approach the Arab/Israeli conflict, the history of the Gulf States, the Iran-Iraq War, and U.S. involvement in the region.

L/R 087. (ANTH063, SAST063) East&West: A Hitchhiker's Guide to the Cultural History of the Modern World. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Mitchell.

Sugar and Spices. Tea and Coffee. Opium and Cocaine. Hop aboard the Indian Ocean dhows, Chinese junks, Dutch schooners, and British and American clipper ships that made possible the rise of global capitalism, new colonial relationships, and the intensified forms of cultural change. How have the desires to possess and consume particular commodities shaped cultures and the course of modern history? This class introduces students to the cultural history of the modern world through an interdisciplinary analysis of connections between East and West, South and North. Following the circulation of commodities and the development of modern capitalism, the course examines the impact of global exchange on interactions and relationships between regions, nations, cultures, and peoples and the influences on cultural practices and meanings. The role of slavery and labor migrations, colonial and imperial relations, and struggles for economic and political independence are also considered.

Recitation will not meet every week. Lecture sessions will be shortened those weeks that recitations are held.

091. (EALC071) Modern Japanese History. (C) History & Tradition Sector. All classes. Dickinson.

This course will survey the major political, economic, social and intellectual trends in the making of modern Japan. Special emphasis will be given to the turbulent relationship between state and society from 1800 to the present.

093. (COML103, FOLK103, THAR103) Performing History. (C) St. George.

From medieval processions to the Mummers Parade, from military reenactments to Mardi Gras, communities do more than "write" or "read" history in order to feel its power and shape their futures. Drawing upon traditions in theater, spectacle, religion, and marketing, they also perform their history--by replaying particular characters, restaging pivotal events and sometimes even changing their outcomes--in order to test its relevance to contemporary life and to both mark and contest ritual points in the annual cycle. This course will explore diverse ways of "performing history" in different cultures, including royal passages, civic parades, historical reenactments, community festivals, and film.

096. (EALC041) Late Imperial China. (C) Fei.

This lecture course -- the first of a two-part sequence -- examines the history of late imperial China through the early 19th century. We begin with the Song dynasty transformation: the rise of gentry society and imperial absolutism, the institution of Confucian orthodoxy, the shift of the population and the economic center of gravity to the south, the commercialization of the economy, and change in the relative status of women and men. We then trace China's subsequent political and social history, including the following themes: inner vs. outer court politics; law, government, and society; intellectuals and political dissent; gender, family, and kinship practices; patterns of peasant life and rebellion; traditional foreign relations and first contacts with the West; internal sources of the decline of imperial order.

097. (EALC047) History of Modern China. (C) History & Tradition Sector. All classes. Fei.

From an empire to a republic, from communism to socialist-style capitalism, few countries have ever witnessed so much change in a hundred year period as China

during the twentieth century. How are we to make sense out of this seeming chaos? This course will offer an overview of the upheavals that China has experienced from the late Qing to the Post-Mao era, interspersed with personal perspectives revealed in primary source readings such as memoirs, novels, and oral accounts. We will start with an analysis of the painful transition from the last empire, the Qing Dynasty (1644-1911), to a modern nation state, followed by exploration of a century-long tale of incessant reform and revolution. The survey will focus on three main themes: 1) the repositioning of China in the new East Asian and world orders; 2) the emergence of a modern Chinese state and nationalistic identity shaped and reshaped by a series of cultural crises; and finally, 3) the development and transformation of Chinese modernity.

Major historical developments include: the Opium War and drug trade in the age of imperialism, reform and revolution, the Nationalist regime, Mao's China, the Cultural Revolution, and the ongoing efforts of post-Mao China to move beyond Communism. We will conclude with a critical review of the concept of "Greater China" that takes into account Taiwan, Hong Kong, and the Chinese diaspora in order to attain a more comprehensive understanding of modern China, however defined, at the end of the last century.

L/R 098. (EALC080) Introduction to Korean Civilization. (C) History & Tradition Sector. All classes. Park.

This gateway course surveys the history of Korea from early times to the present. We will study the establishment of various sociopolitical orders and their characteristics alongside major cultural developments. Covered topics include: state formation and dissolution; the role of ideology and how it changes; religious beliefs and values; agriculture, commerce, and industry; changing family relations; responses to Western imperialism; and Korea's increasing presence in the modern world as well as its future prospects. Students will also be introduced to various interpretive approaches in the historiography. No prior knowledge of Korea or Korean language is presumed.

Freshman Seminars (101-106) and BFS Seminars (111-116) for Freshmen and

Sophomores.

These courses are open to a limited number of freshmen and, if space permits, to

sophomores as well. Topics vary each semester.

SM 101. (JWST103, RELS026) Freshman Seminar: Europe before 1800. (C) Staff.

SM 102. Freshman Seminar: Europe after 1800. (C) Staff.

SM 103. Freshman Seminar: America before 1800. (C) Staff.

SM 104. (AFRC015, AFRC103, ASAM013) Freshman Seminar: America after 1800. (C) Staff.

SM 105. (ANCH190, CLST190, EALC073) Freshman Seminar: The World before 1800. (C) Staff.

SM 106. (AFRC107, LALS107) Freshman Seminar: The World After 1800. (C)

Benjamin Franklin Seminars

Topics vary each semester. Courses are mainly for freshmen and sophomores in the Benjamin Franklin Scholars program. Other students need instructor's consent.

SM 111. Europe before 1800: Benjamin Franklin Seminar. (C) Staff.

SM 112. Europe after 1800: Benjamin Franklin Seminar. (C) Staff.

SM 113. America before 1800: Benjamin Franklin Seminar. (C) Staff.

SM 114. America after 1800: Benjamin Franklin Seminar. (C) Staff.

SM 115. The World before 1800: Benjamin Franklin Seminar. (C) Staff.

SM 116. The World after 1800: Benjamin Franklin Seminar. (C) Staff.

Introductory Courses (100-level)

Topics vary each semester. Listings are posted outside the Department of History office during advance registration. Enrollment is limited; history majors will be given priority in admission.

107. Comparative Capitalist Systems. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Drew.

The course follows the evolution of industrial capitalism since the beginning of the English industrial revolution in the late 18th century. It ranges from the problems of the industrial revolution in England to

problems of building a market economy in eastern Europe today. In particular, it examines industrialization and explores the sources of sustained economic growth from a comparative perspective. Most of the world, especially in so-called emerging economies, is still confronted with the challenge, and often pain, of creating a modern industrial capitalist society. The course attempts to build a conceptual apparatus for understanding models of industrialization and is built around issues such as law, anti-trust, corporate forms, banking institutions, industrial relations, etc. By definition, the course tends to concentrate on successful industrializers around the world, but questions regarding continuing underdevelopment will be addressed.

118. (ANTH118, GSWS119, RELS109) Witchcraft and Possession. (C) St. George.

This course explores world witchcraft and possession from the persecutions of the early seventeenth century through the rise of Wicca in the twentieth century. The mere mention of these terms, or of such close cousins as demonology, sorcery, exorcism, magic, and the witches Sabbath, raises clear ethnographic and historical challenges. How can the analysis of witchcraft-- including beliefs, patterns of accusation, the general social position of victims, the intensity and timing of witch hunts, and its relation to religious practice, law, language, gender, social marginalization, and property--lead us to a more humane understanding of belief and action? Films such as *The Exorcist*, *The Blair Witch Project*, *The Crucible*, and *Three Sovereigns for Sarah* will focus discussion.

119. History of the Modern Business Corporation. (C) Drew.

Over the last two centuries, the modern corporation has emerged as the dominant form of doing business throughout the world. As such, it not only effects people's daily lives, but also influences government policies and larger trends in society. This course looks at the history of the international corporation from the industrial revolution to the present, to consider how corporations have evolved and the varying ways in which they have influenced the history of our times. We will consider the fundamental debates surrounding the responsibility between shareholders, managers, workers, customers, and most importantly, society as a whole. Much of the course will involve an examination of case studies of individual companies, industries or issues, to understand how

corporations have functioned in specific instances.

120. (EALC081) PREMODERN KOREA: PHILOSOPHERS, WARRIORS AND SLAVES. (C) History & Tradition Sector. All classes. Park.

This course surveys the history of Korea from early times to 1800, focusing on the establishment of various sociopolitical orders and their characteristics as well as major cultural developments. Covered topics include: state formation and dissolution; status hierarchy and social mobility; the role of ideology and how it changes; religious beliefs and values; agriculture, crafts and commerce; and changing family relations and gender roles. Students will also be introduced to various interpretive approaches in the historiography. No prior knowledge of Korea or Korean language is presumed. The course fulfills the College's History and Tradition Sector and Cross Cultural Analysis requirements. For the History major and minor, this course counts toward the pre-1800 and Asia requirements.

121. (EALC082) Modern Korea. (C) Park.

An examination of Korean society and culture in tumultuous transition, focusing on challenges for the Choson Dynasty and its reform effort, pressures imperialism, impact of Japanese colonial rule, conflict between two rival regimes, South Korea's emergence as a major player in the international political economy, some salient features of the totalitarian North Korean regime, triumph of democracy, and Korea's place in the world.

123. Economic History of Europe I. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Safley.

This course concentrates on the economy of Europe in the Early Modern Period, 1450-1750. It was a time of great transition. Europe developed from an agriculturally-based to an industrially-based economy, with attendant changes in society and culture. From subsistence-level productivity, the European economy expanded to create great surpluses of goods, with attendant changes in consumption and expectation. Europe grew from a regional economic system to become part--some would say the heart--of a global economy, with attendant changes in worldview and identity. Economic intensification, expansion, globalization, and industrialization are our topics, therefore. Beginning with economic organizations and practices, we will consider how these changed over time and influenced society

and culture. The course takes as its point of departure the experience of individual, working men and women: peasants and artisans, merchants and landlords, entrepreneurs and financiers. Yet, it argues outward: from the particular to the general, from the individual to the social, from the local to the global. It will suggest ways in which the economy influenced developments or changes that were not in themselves economic, shaped, and deflected economic life and practice.

124. Economic History, 1600 to present. (C) Drew.

Economic affairs dominate much of our daily lives and an appreciation of how our economic world evolved is essential for an intelligent understanding of today's society. This course will survey the world's economic history from 1600 to the present. It will consider the evolution of government policies, the growth of trade, business and industry, the economic inter-relationship between regions, governments and business, and, of course, their effect on ordinary people's economic lives.

126. Modern Europe, 1789-1919. (C) Chase-Levenson.

It's old, it's new. It's unfamiliar, it's recognizable. This course investigates the collapse of the "old regime" and the birth of something like the Europe we recognize. The long nineteenth century witnessed the development of political, economic, and cultural phenomena we often see as characteristic of modern society. Topics considered include political revolution, industrialization, liberalism, imperialism, and new ideologies of gender, race, and class. Our focus will be consistently transnational. Where did Europe begin and end? How did borders and boundaries operate at the edge of nations, but also within societies? We will investigate these questions as we follow European history from the violence and optimism of the French Revolution to the chaos of the First World War.

128. From Complete Destruction to Superpower: Europe 1945-2013. (C) Steinberg.

This course offers a survey of European history, including both eastern and western Europe since World War II until the present. The course examines how Europe in all its complexity and cultures lived under the shadow of the Cold War. It examines the origins and nature of the cold War, not just in its diplomatic and political dimensions, but also its effects on the culture and people of Europe. It explores the reasons for the phenomenon of anti-

Americanism and the series of revolts exploding throughout eastern Europe until the fall of the Berlin Wall. Finally, the course examines a number of thematic areas about European political culture, immigration, decolonization, the 1960s revolts and the 1970s terrorism, the resurgence of nationalism, but also the growth of the European community. The course explores the question: what does it mean to be European?

130. History of Globalization. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Drew.

Globalization seems the essence of modernity, but it is not a new phenomena. The world has already witnessed several eras of globalization, each of which transformed and changed the world in often similar but sometime unique fashions. This course will look at continuing trends towards globalization and consider its rich history and the contentious arguments that it has always provoked. Although the focus of the course will be on globalization during the 19th and 20th centuries, we will also consider earlier episodes of globalization, to fully appreciate its evolution and importance.

L/R 135. (EUR135, RUSS135) Cold War: Global History. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Nathans.

The cold War was more than simply a military confrontation between the United States and the Soviet Union; it was the frame within which the entire world developed (for better or worse) for nearly five decades. This course will examine the cold War as a global phenomenon, covering not only the military and diplomatic history of the period, but also examining the social and cultural impact of the superpower confrontation. We will cover the origins of the conflict, the interplay between periods of tension and detente, the relative significance of disagreements within the opposing blocs, and the relationship between the "center" of the conflict in the North Atlantic/European area and the global "periphery".

137. International Society in the Twentieth Century. (C) Ogle.

Is the world evolving toward a global civil society, and perhaps toward global government? The course explores this question across the 20th century, focusing on the origins and evolution of transnational organizations and movements. We will analyze a variety of actors above and below the level of the nation-state, from the League of Nations to Amnesty

International. At the same time we will pay careful attention to the many countervailing forces that have resisted the process of globalization: various forms of nationalism, local ethnic and religious movements in places as far-flung as Central Africa and Northern Ireland, and struggles over territories and border control from Arizona to Kashmir. We will look at the long history of contention between these opposing trajectories, exploring such topics as Wilsonianism and its reception in Europe and beyond, transnational human rights norms, the environmentalist movement, institutions designed to deal with global threats such as the World Health Organization or the International Atomic Energy Agency, European integration, political Islam, and the War on Terror.

139. (JWST156, NELC051, NELC451, RELS120) Jews and Judaism in Antiquity. (B) History & Tradition Sector. All classes. Dohrmann.

A broad introduction to the history of Jewish civilization from its Biblical beginnings to the Middle Ages, with the main focus on the formative period of classical rabbinic Judaism and on the symbiotic relationship between Judaism, Christianity, and Islam.

140. (JWST157, NELC052, RELS121) Medieval and Early Modern Jewry. (A) History & Tradition Sector. All classes. Ruderman.

Exploration of intellectual, social, and cultural developments in Jewish civilization from the rise of Islam in the seventh century to the assault on established conceptions of faith and religious authority in 17th century Europe, that is, from the age of Mohammed to that of Spinoza. Particular attention will be paid to the interaction of Jewish culture with those of Christianity and Islam.

141. (JWST158, NELC053, RELS122) Jews in the Modern World. (B) History & Tradition Sector. All classes. Wenger.

This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in

Israel and the United States. No prior background in Jewish history is expected.

L/R 146. (HSOC145, STSC145) Comparative Medicine. (C) History & Tradition Sector. All classes. Mukharji.

See primary department (HSOC) for a complete course description.

147. (AFST147, NELC187) Islamic History to 1517. (C) Staff.

This course consists of an overview of the history of the major Islamic dynasties which ruled over the Middle East and North Africa from the beginning of the "Islamic Empire" to 1517 A.D.

150. (JWST130, JWST430, RELS124) American Jewish Experience. (C) Wenger.

This course offers a comprehensive survey of American Jewish history from the colonial period to the present. It will cover the different waves of Jewish immigration to the United States and examine the construction of Jewish political, cultural, and religious life in America. Topics will include: American Judaism, the Jewish labor movement, Jewish politics and popular culture, and the responses of American Jews to the Holocaust and the State of Israel.

153. (URBS104) Transformation of Urban America: From the Mid-Twentieth Century to the Present. (C) Society Sector. All classes. Fairbanks.

The course traces the economic, social, and political history of American cities after World War II. It focuses on how the economic problems of the industrial city were compounded by the racial conflicts of the 1950s and 1960s and the fiscal crises of the 1970s. The last part of the course examines the forces that have led to the revitalization of cities in recent years.

155. (ASAM003) Introduction to Asian American History. (C) History & Tradition Sector. All classes. Azuma.

This course will provide an introduction to the history of Asian Pacific Americans, focusing on the wide diversity of migrant experiences, as well as the continuing legacies of Orientalism on American-born APA's. Issues of race, class, gender, and sexuality will also be examined.

156. (SAST166) History of Jewish Civilization I: From Biblical Period to Early Middle Ages. (C) Goldenberg.

A broad introduction to the history of Jewish civilization from its Biblical beginnings until the Middle Ages, with the main focus on the formative period of

classical rabbinic Judaism and on the symbiotic relationship between Judaism, Christianity, and Islam.

L/R 159. Technology, Policy & War. (C) Waldron.

Comparative and interdisciplinary examination of successful and failed uses of force in international relations, from ancient to modern times, using case studies. Readings will include Clausowitz, Sun Tzu, and a variety of primary and secondary sources for the wars considered each year. Issues of war's fundamental origins, and its many impacts on society, will also be considered.

160. Strategy, Policy and War. (C) Waldron.

Analysis of the political use of force, both in theory and in practice, through analytical readings and study of selected wars. Readings include Sun Zi, Kautilya, Machiavelli, Clausewitz and other strategists. Case studies vary but may include the Peloponnesian War, the Mongol conquests, the Crusades, the Crimean War, Russo-Japanese War, World War II, Korea, or the Falklands, among others, with focus on initiation, strategic alternatives, decision and termination. Some discussion of the law of war and international attempts to limit it.

L/R 161. (ECON014) American Capitalism. (C) Society Sector. All classes. Licht.

A broad overview of American economic history will be provided by focusing on the following topics: colonial trade patterns, the growth of the market economy, the political economy of slavery, industrial expansion, segmentation in the labor force and changes in work, technological and organizational innovations, business cycles, the rise of the corporate welfare state, the growth of monopoly capitalism, and current economic problems in historical perspective.

L/R 163. Modern American Culture. (C) History & Tradition Sector. All classes. Peiss.

Through the twentieth century, American culture took on new forms and meanings, spurred by technological innovation, commerce, and institutions, and shaped by an ever-changing population. In the process, American culture became self-consciously 'modern'-embraced, contested, repudiated, and continually redefined. This course explores the history of American culture from the 1890s to the 1990s, with a focus on the following questions: Why did culture become such an important part of

American economic, social, and political life in the twentieth century? How has culture been created, understood, and mobilized by different groups in American society at different times? What have been the politics of culture over the twentieth century? Topics include the rise of 'culture industries' and mass entertainment, including amusement parks, film, radio, and television; the growth of consumer culture; the impact of gender in such arenas as sports and fashion; the role of working-class peoples, African Americans, and immigrants in American culture; the cultural response to the Depression and World War II; and popular activism. The course emphasizes the study of primary documents—journalism, fiction, letters and diaries, music, photographs, and film—as a means of understanding the past.

164. Recent American History. (C) Licht.

This course examines major developments in United States history since the Great Depression, a tumultuous period that gave birth to many of our contemporary debates about the responsibilities of government, the possibility of radical social change, and the meaning of citizenship. Reading primary documents alongside historical accounts, we will address the building of the New Deal state; the emergence of the United States as a superpower; the domestic and international repercussions of the Cold War; the impact of mass consumption, suburbanization, and new technologies; the civil rights movement and other drives for social change; the cultural and political fallout of the Vietnam War; transformations in gender roles and the family; and the end of the "American century."

L/R 165. (CIMS167) HOLLYWOOD & AMER HISTORY. (C)

This course examines crucial events in American history, from the Puritans to the present, through the lens of Hollywood film and other media. We will consider how these visual representations have influenced our present understanding of key matters such as the Constitution, presidential politics, Protestant religion, racial tensions, and war-making. Material to be viewed includes *The Patriot*, *Gettysburg*, *Gold Diggers of 1933*, *The Best Years of Our Lives*, *West Side Story*, and *Guess Who's Coming to Dinner?*

L/R 166. (CIMS166, NELC137) Arabic/Israeli Conflict in Literature and Film. (C) Troutt-Powell.

This course will explore the origins, the history and, most importantly, the literary

and cinematic art of the struggle that has endured for a century over the region that some call the Holy Land, some call Eretz Israel and others call Palestine. We will also consider religious motivations and interpretations that have inspired many involved in this conflict as well as the political consequences of world wars that contributed so greatly to the reconfiguration of the Middle East after the fall of the Ottoman Empire, and after the revelations of the Holocaust in Western Europe. While we will rely on a textbook for historical grounding, the most significant material we will use to learn this history will be films, novels, and short stories. Can the arts lead us to a different understanding of the lives lived through what seems like unending crisis?

168. (AFRC168) History of American Law to 1877. (A) Berry.

The course surveys the development of law in the U.S. to 1877, including such subjects as: the evolution of the legal profession, the transformation of English law during the American Revolution, the making and implementation of the Constitution, and issues concerning business and economic development, the law of slavery, the status of women, and civil rights.

169. (AFRC169) History of American Law Since 1877. (B) Berry.

This course covers the development of legal rules and principles concerning individual and group conduct in the United States since 1877. Such subjects as regulation and deregulation, legal education and the legal profession, and the legal status of women and minorities will be discussed.

L/R 170. (AFRC172) The American South. (D) History & Tradition Sector. All classes. McCurry.

Southern culture and history from 1607-1860, from Jamestown to secession. Traces the rise of slavery and plantation society, the growth of Southern sectionalism and its explosion into Civil War.

L/R 171. The American South 1860-Present. (D) History & Tradition Sector. All classes. Hahn.

This course will trace the history of the American South from the end of the Civil War to the present. It will investigate Reconstruction, the New South, Populism, racial disfranchisement and the rise of Jim Crow, the politics of the One-Party South, the South in the Progressive era and its role in the New Deal and World War II, the Civil Rights Movement of the 1950s and

1960s, and the rise of the Republican South. While following the narrative of politics and economic development, we will pay particular attention to race relations and will be more than casually interested in gender roles. In addition, we will take frequent peeks at the evolving Southern identity as reflected in popular culture and literature as well as in other corners of the public sphere.

172. Native People of Eastern North America. (C) Richter.

This course surveys Native American life east of the Mississippi River from earliest times to the present. The diverse histories of Native peoples will be examined both on their own terms and as continuing elements of the continent's broader story. Topics to be addressed include 16th- and 17th-century demographic, economic, and social consequences of contact with European peoples, 18th century strategies of resistance and accommodation to colonial powers, 19th-century impacts of U.S. government removal and cultural assimilation policies, and 20th-century cultural and political developments among the region's surviving Native American communities.

174. (LALS174) Reform and Revolution in the Americas. (C) History & Tradition Sector. All classes. Offner.

The United States and Latin America produced a remarkable series of revolutions and reforms during the postwar period. This course examines efforts in the United States, Guatemala, Cuba, and Brazil to define and address problems around land, labor, and property; nation, empire, and autonomy; and racism, democracy, and citizenship. In studying the US and Latin America together, the class invites students to explore central themes of both regions' histories as parts of global processes. We will explore exchanges between social movements in the US, Cuba and Africa, for instance, ask how ideas about poverty traversed national borders, and examine the global rise of human rights consciousness. The class, in other words, not only compares national histories but analyzes the relationships between national upheavals and the global significance of events in the hemisphere.

175. (AFRC175, LALS175) Society and Culture in Brazil. (C) Walker.

With its booming economy, the recent inauguration of its first female president, and its selection as host to the 2012 World Cup and Olympic games, Brazil is growing in global prestige. But amid all these

exciting developments are devastating socioeconomic inequalities. Access to safe living conditions, livable wages, higher education, and overall social mobility remain painfully out of reach to many Brazilians, the majority of whom are the descendants of slaves. Why do these problems persist in a country that has had such an enduring and widespread reputation as a "racial democracy"? What are the possibilities of closing the equality gap in Brazil?

To answer these and other questions, our course takes a long and expansive view of Brazilian history. We begin with an exploration of Brazil's early formation as a Portuguese colony in the sixteenth century before moving on to tracing its development as one of the largest and longest-lasting slaveholding societies in the world. From there we will examine the gradual process of abolition in the region, the transition to an independent republic in the nineteenth century, as well as the nation-building projects and political crises of the twentieth century. We will conclude with an analysis of the major issues shaping modern Brazilian society and culture.

176. (AFRC176) Afro-American History 1550-1876. (D) History & Tradition Sector. All classes. STAFF.

This course will study the history of Afro-Americans from their first encounter with Europeans in the 16th century to emancipation during the Civil War. The course will concentrate on the variety of black responses to capture, enslavement, and forced acculturation in the New World. The difference in the slave experience of various New World countries, and the methods of black resistance and rebellion to varied slave systems will be investigated. The nature and role of the free black communities in antebellum America will also be studied.

177. (AFRC177) Afro-American History 1876 to Present. (D) History & Tradition Sector. All classes. Savage.

A study of the major events, issues, and personalities in Afro-American history from Reconstruction to the present. It will also examine the different slave experiences and the methods of black resistance and rebellion in the various slave systems.

178. (LALS178) The Foundations of the Early Modern Atlantic World 1450-1800. (C) Feros.

The purpose of this course is to provide students with a solid knowledge of Atlantic history during the early modern period (XV-XVIII centuries). Through readings

of primary and secondary texts we will discuss the cultural, religious, intellectual, and economic developments of Europe, Africa, and the Americas, as well as the connections, struggles, and mutual influences between the peoples of these three continents. Throughout the semester we will study several important topics: medieval precedents of early modern expansion; theories of empire; ideologies and systems of conquest and colonialization; the relevance of race and slavery to the understanding of the early modern Atlantic world; how different peoples perceived others and themselves; how European imperialism and colonialization affected the internal development of Africa and America; the role played by religion in the Atlantic world; persistence and continuity of Native cultures and beliefs during an age of expansion; the creation of new identities; the role played by African nations in the creation of the Atlantic world; and the creation of an Atlantic economy.

179. (LALS179, ROML250) The Rise and Fall of the Spanish Empire 1450-1700. (C) History & Tradition Sector. All classes. Feros.

This course will provide students with a solid knowledge of the history of early modern Spain (1450-1700). Through readings of primary and secondary texts that offer a complex vision of the cultural, religious, intellectual, and economic contexts and processes, students will be able to appreciate the intricacies of Spain's historical evolution. The course focuses on the rise and decline of the Spanish monarchy: the conditions that enabled Spain to become the most powerful monarchy in early modern times, and the conditions that led to its decline. This course also touches upon other important aspects critical to understanding early modern Spain: relationships among Christians, Muslims, and Jews in the Iberian Peninsula; the conquest and colonization of the New World; and early modern debates about Spain's rights to occupy America and the so-called "destruction of the Indies."

188. (NELC188, SOCI231) Revolutions in the Middle East: Mass Movements & Contemporary Politics in the Middle East and North Africa. (C) Kashani-Sabet.

Ideas play an intangible role in defining culture and politics. In the contemporary Middle East, mass movements and revolutions have become a familiar feature of social and political life. This course surveys some of the major revolutions and

ideologies that have caused significant change in the Middle East over the last century. We will examine icons of imperialism and consider varying sources of conflict within and between states. Novels, essays, and secondary works will comprise the bulk of the readings. The weekly assignments will focus on particular themes or on works that show the nature of political change in various contexts and geographic settings. Thematic texts will be supplemented with some factual information to help the students put the ideas of revolt and protest in the proper historical context.

189. (NELC139) Modern Egypt. (C) Troutt-Powell.

This course will seek to explore how Egyptian culture has dealt with its many pasts by investigating early modern and modern Egyptian history. With an emphasis on the 18th century to the present we will explore the culture of Egypt under the Ottoman Empire, slavery in Egypt, the unsuccessful French attempt to colonize Egypt and the successful British occupation of the country.

Seminar in History (201-206)

Topics vary each seminar. Listings are available from the Department of History office during advance registration, and at all times on the Web at <http://www.history.upenn.edu>. Enrollment is limited; history majors will be given priority in admission.

SM 201. (COML207, ITAL200, JWST201, RELS233) Major Seminar in History: Europe Before 1800. (C) Staff.

SM 202. Major Seminar in History: Europe After 1800. (C) Staff.

SM 203. (GSWS203) Major Seminar in History: America Before 1800. (C) Staff.

SM 204. (AFRC205, GSWS204, JWST204, LALS204, URBS227) Major Seminar in History: America After 1800. (C) Staff.

SM 205. (JWST205, LALS205, NELC235) Major Seminar in History: The World before 1800. (C) Staff.

SM 206. Major Seminar of the World after 1800. (C) Staff.

Advanced Benjamin Franklin Seminars

Topics vary each semester. Courses are mainly for juniors and seniors in the Benjamin Franklin Scholars program. Other students need instructor's consent.

SM 211. (FREN360) Europe before 1800: Advanced Benjamin Franklin Seminar. (C) Staff.

SM 212. (ITAL200) Europe after 1800: Advanced Benjamin Franklin Seminar. (C) Staff.

SM 213. America before 1800: Advanced Benjamin Franklin Seminar. (C) Staff.

SM 214. (AFRC215, GSWS214, JWST214, URBS220) America after 1800: Advanced Benjamin Franklin Seminar. (C) Staff.

SM 215. The World before 1800: Advanced Benjamin Franklin Seminar. (C) Staff.

SM 216. (NELC286) The World after 1800: Advanced Benjamin Franklin Seminar. (C) Staff.

Intermediate Courses (220-397)

SM 209. (URBS103) Industrial Metropolis. (A) History & Tradition Sector. All classes. Vitiello.

Although we no longer think of most U.S. cities as industrial cities, metropolitan areas today are all products of industrial economies, technologies, and social systems. This course explores the industrialization and deindustrialization of American cities within their evolving global context from the era of European colonization to the present. It includes weekly readings and discussion, regular response papers and walking tours, in-class exercises, and a research paper using primary sources. Themes include energy and ecology, labor and production, inner city and suburban development, globalization, and economic restructuring. Ultimately, the class aims to give students a broad knowledge of 1) the history of industrial capitalism, 2) its effects on cities and regions over the past three centuries, and 3) analytical tools for understanding the past, present, and future of metropolitan economies, geography, and society.

219. (COML235, RUSS234, SLAV517) Medieval Russia: Origins of Russian Cultural Identity. (M) Verkholantsev.

This course offers an overview of the cultural history of Rus from its origins to

the eighteenth century, a period which laid the foundation for the Russian Empire. The course takes an interdisciplinary approach to the evolution of the main cultural paradigms of Russian Orthodoxy viewed in a broader European context. Although this course is historical in content, it is also about modern Russia. The legacy of Medieval Rus is still referenced, often allegorically, in contemporary social and cultural discourse as the Russian, Ukrainian and Belarusian societies attempt to reconstruct and reinterpret their histories. In this course, students learn that the study of the medieval cultural and political history explains many aspects of modern Russian society, its culture and mentality.

SM 220. (COML220, RUSS220) RUSSIA AND THE WEST. (M)

SM 227. (SAST163) Topics in S. Asian Hist. (C)

SM 230. (CLST230, COML248, GRMN232, ITAL230, JWST230) Topics in European History. (C) Staff.
Topics vary

SM 231. (AFRC229, ASAM203, ENGL253, JWST215, RELS209) Topics in US History. (C) Staff.

Topics in US History

SM 232. (AFRC233, AFST232, CIMS233, NELC282) World History: Africa or the Middle East. (A) Staff.

Topics vary

SM 233. (AFRC234, ARTH369, EALC141, GSWS233, LALS233) World History: East Asia or Latin America. (A) Staff.

Topics Vary

275. (AFRC274, AFST274) Islam and Society in Africa. (C) Babou.

This course is designed to provide the students with a broad understanding of the history of Islam in Africa. The focus will be mostly on West Africa, but we will also look at developments in other regions of the continent. We will examine the process of islamization in Africa and the interplay between Islam and the African traditional religions and customs. Topics include conversion, Islamic education and literacy, the status of women, Muslim response to European colonial domination, Islamic mysticism, and the contemporary development of Sunni movements.

276. (EALC176) Japan: The Age of the Samuri. (C) Hurst.

This course deals with the samurai in Japanese history and culture and will focus on the period of samurai political dominance from 1185 to 1868, but it will in fact range over the whole of Japanese history from the development of early forms of warfare to the disappearance of the samurai after the Meiji Restoration of the 19th century. The course will conclude with a discussion of the legacy of the samurai in modern Japanese culture and the image of the samurai in foreign perceptions of Japan.

277. (EALC270) Tpcs in Premod Jap History.

308. Renaissance Europe. (C) Moyer.

This course will examine the cultural and intellectual movement known as the Renaissance, from its origins in fourteenth-century Italy to its diffusion into the rest of Europe in the sixteenth century. We will trace the great changes in the world of learning and letters, the visual arts, and music, along with those taking place in politics, economics, and social organization. We will be reading primary sources as well as modern works.

309. Age of Reformation. (C) Safley.

The Protestant Reformation of the 16th century was a watershed in European history. It marked the culmination of centuries of religious, political and social change and had profound institutional and intellectual consequences. We will examine the central teachings and activities of the Protestant reformers against this broad background. Topics will include: medieval traditions of religious protest and reform; social and political changes in the period of the Reformation; the changing role of the Papacy; and the impact of the new technology of printing. Readings will be both primary texts and secondary sources and discussions will be an integral part of the class.

310. Europe in the Age of Baroque. (C) Safley.

The baroque earns its name from a style of art and architecture, developed in Europe between 1550 and 1700 and typified by elaborate ornamentation and color. The term can be applied well to the history of the period, which was characterized by conflict and complexity.

312. Britain's Century of Revolution. (C) Todd.

England, Ireland, Wales and Scotland experienced revolutions in the first half of

the seventeenth century that abolished monarchy and hereditary aristocracy, and carried out the first judicial execution of a monarch in European history. England was re-constructed as a republic, then with Scotland became the United Commonwealth of Great Britain, then declined into a military dictatorship, and finally invited the king back. In 1688, however, the Glorious Revolution deposed that king and declared Britain a strictly constitutional monarchy. This course will explore what motivated ordinarily obedient British subjects to take up arms against their rulers. The works of Milton and Marvell, Cromwell, Hobbes and Locke, and many lesser-known writers of diaries, autobiographies, sermons, statutes, and letters will illuminate the issues. The focus will be on how law, politics and religion interacted in the onset of war and defining of settlement, but with an eye to the larger social and cultural setting in which revolutions happened: this is also an era of both witchcraze and scientific revolution, puritanism and the slave trade, the near-destruction of London by fire and plague and its re-birth as the capital of a commercial empire.

314. Victorian Britain: Spaces, Places, and Pests. (M) Chase-Levenson.

In this course, we will examine the nooks and crannies of Victorian society. It was a period of squalor, but also innovation, devastating diseases, and crucial advances in public health and medical science. Its cities featured depressing slums and lurid crimes, but also new kinds of spectacles, entertainments, and commodities. It was, in many ways, as one of its greatest authors wrote, "the best of times, and the worst of times." Units under study will include "The Docks," "The Germs," "The Empire," "The Church," and "the Museum." We'll investigate killer diseases like cholera and typhus, dazzling buildings like the Crystal Palace, imperial wars and crises, and new scientific movements like Darwinism and mesmerism. Along the way, we will encounter proper and eminent Victorians as well as scandalous and marginalized ones. The aim will be to understand Victorian mentalities and ideas by looking at a diverse array of institutions and inventions. Readings will include novels, stories, pamphlets, essays, and cartoons as well as secondary literature. Classes will be a mixture of lecture and discussion, and no previous experience in British history is necessary.

318. (ITAL318) Italian History from Napoleon to Berlusconi. (M) Steinberg.

The seminar looks at the evolution of modern Italy from the Napoleonic Era through the unification of the Kingdom in 1861, through its crisis in the First World War and the subsequent struggle for control of the new mass society. It looks at the emergence of the first fascist regime and the first modern dictatorship under Benito Mussolini; the rise and consolidation of that dictatorship, its descent into anti-Semitism, defeat in war and the civil war of 1943-45.

SM 320. (HSOC279, STSC279) Nature's Nation: Americans and their Environment. (C) Greene.

Environmental history studies the interactions between humans and the natural world. In this kind of study, mosquitoes and rain are actors in history as well as humans and their impact. This course explores these interactions through case studies and topics nationally and globally, such as energy, disease, human migration and settlement, animals, technological changes, urban and suburban development, conservation and politics. This course is geared toward students who want to think about how history happens, in different places and over time.

323. (FOLK323) Material Life in America, 1600-1800. (C) St. George.

This course will explore the history of America's use and fascination with material goods between 1600 and 1860. We will examine such issues as the transfer of European traditions of material culture to the New World, the creation of American creolized forms, the impact of reformers in the late eighteenth and early nineteenth centuries, and the development of regional landscapes. Thematic issues will include consumerism, objects as symbolic communication and metaphor, and the complementary issues of archaeology and history of art in material culture study.

331. American Diplomatic History Since 1776. (C) McDougall.

Survey course tracing the origins and evolution of the great traditions of U.S. foreign policy, including Exceptionalism, Unilateralism, Manifest Destiny, Wilsonianism, etc., by which Americans have tried to define their place in the world. Three hours of lecture per week, extensive reading, no recitations.

333. (COML236, RUSS240) Napoleonic Era & Tolstoy. (C)

Holquist/Vinitzky.

In this course we will read what many consider to be the greatest book in world

literature. This work, Tolstoy's *War and Peace*, is devoted to one of the most momentous periods in world history, the Napoleonic Era (1789-1815). We will study both the novel and the era of the Napoleonic Wars: the military campaigns of Napoleon and his opponents, the grand strategies of the age, political intrigues and diplomatic betrayals, the ideologies and human dramas, the relationship between art and history. How does literature help us to understand this era? How does history help us to understand this great novel?

This semester marks the 200th anniversary of Napoleons attempt to conquer Russia and achieve world domination, the campaign of 1812. Come celebrate this Bicentennial with us! Because we will read *War and Peace* over the course of the entire semester, readings will be manageable and very enjoyable.

341. Tudor England. (C) Todd.

This course examines the history of England from the accession of Henry (VII) Tudor in 1485 to the death of Elizabeth I in 1603, with emphases on the political and personal history of this colorful dynasty, the religious revolution known as the protestant Reformation, the arts and literature known as the English Renaissance, imperial and trade ventures overseas, and aspects of popular culture including the witch craze. Unlike most English histories of the period, we will also look closely at the other realms of the British Isles, Scotland, Wales, and Ireland. Readings consist of a textbook with a British scope, and an array of primary sources, some in book form and others (marked with an asterisk on the syllabus) attached to Blackboard or distributed in class. Books are available at the Penn Book Center, except for biographies associated with film critiques. Most of the films noted in the syllabus will be available on PVN; otherwise, they can be viewed at the library or through Netflix. Assignments in square brackets are optional.

342. (COML342) European Intellectual History, 1300-1600. (C) Moyer.

This course will examine the formation of European traditions of scholarship and letters, including medieval, Renaissance and early modern writings. Topics will include court literature and romance; scholastic thought and university scholarship; political thought; the humanist tradition. It will consider the rise of printing, the formation of the "republic of letters," and the development of popular literature.

343. (COML343) Nineteenth Century European Intellectual History. (C) Breckman.

Starting with the dual challenges of Enlightenment and Revolution at the close of the eighteenth century, this course examines the emergence of modern European thought and culture in the century from Kant to Nietzsche. Themes to be considered include Romanticism, Utopian Socialism, early Feminism, Marxism, Liberalism, and Aestheticism. Readings include Kant, Hegel, Burke, Marx, Mill, Wollstonecraft, Darwin, Schopenhauer, and Nietzsche.

344. (COML344) Twentieth Century European Intellectual History. (B) Breckman.

European intellectual and cultural history from 1870 to 1950. Themes to be considered include aesthetic modernism and the avant-garde, the rebellion against rationalism and positivism, Social Darwinism, Second International Socialism, the impact of World War One on European intellectuals, psychoanalysis, existentialism, and the ideological origins of fascism. Figures to be studied include Nietzsche, Freud, Woolf, Sartre, Camus, and Heidegger.

L/R 345. (AFRC345, GSWS345) Sinners, Sex and Slaves: Race and Sex in Early America. (A) Brown.

This course explores the lost worlds of sinners, witches, sexual offenders, rebellious slaves, and Native American prophets from the seventeenth to nineteenth centuries. Using the life stories of unusual individuals from the past, we try to make sense of their contentious relationships with their societies. By following the careers of the trouble-makers, the criminals, and the rebels, we also learn about the foundations of social order and the impulse to reform that rocked American society during the nineteenth century.

L/R 346. (AFRC346, GSWS346) Gender in Modern American History. (B) Peiss.

This course explores how immigration, industrialization, racial segregation, and the growing authority of science transformed the fundamental conditions of women's lives in the late nineteenth and early twentieth centuries. Building on previous efforts by female reformers to perfect society, women at the turn of the century organized large social movements dedicated to improving the lives of women and children and gaining public access to political power. We will examine the fruits of this activism as well as the consequences

of subsequent events for the rise of several important social movements in the latter half of the century -- including civil rights, women's liberation, and gay rights -- in which women played a vital role. The course concludes with an assessment of feminism in the present day, with special emphasis on the responses of younger women to its legacy.

L/R 349. (GSWS349) History of Sexuality in the U.S. (C) Peiss.

This course introduces students to a relatively new field of inquiry, the history of sexuality in the U.S. It explores the past to consider why sexuality has been so central to American identities, culture, and politics. Primary documents and other readings focus on the history of sexual ideology and regulation; popular culture and changing sexual practices; the emergence of distinct sexual identities and communities; the politics of sexuality; and the relationship between sexual and other forms of social difference, such as gender, race, ethnicity, age, and class. Topics include many with continuing relevance to contemporary public debate: among them, sexual representation and censorship, sexual violence, adolescent sexuality, the politics of reproduction, gay and lesbian sexualities and sexually transmitted diseases.

L/R 353. (AFRC353) Slavery, Race & Revolution in the Atlantic World. (M) Hahn.

This course will explore the role of peoples of African descent in the making and transformation of the Atlantic world between the revolutionary era of the late 18th century, which saw the establishment of the first black republic in the Western Hemisphere, and the early decades of the 20th century, when a new pan-African consciousness emerged. We will look at the roles that slavery and the slave trade played in marking the boundaries of a black Atlantic, and we will pay special attention to the part that people of African descent played both in struggles against slavery in the Americas and in the struggles to define the meanings of freedom and peoplehood there and elsewhere.

354. (ASAM354) American Expansion in the Pacific. (C) Azuma.

This class will focus on America's expansion into the Pacific around the turn of the century with the acquisition of Hawaii and the Philippines. It can deal with various issues, including the meaning of "frontier," colonialism, development of capitalist economies in the region, diplomacy, racism, migration, an American

brand of Orientalism in encountering the "natives" and "heathens," and histories of the West and the Pacific Islands in general.

362. (LAW 553) Law in American Life. Gordon.

SM 370. (AFST332, AFST533, NELC332, NELC632) North Africa: History, Culture, Society. (B) Sharkey.

This interdisciplinary seminar aims to introduce students to the countries of North Africa, with a focus on the Maghreb and Libya (1830-present). It does so while examining the region's close economic and cultural connections to sub-Saharan Africa, Europe, and the Middle East. Readings will include histories, political analyses, anthropological studies, and novels, and will cover a wide range of topics such as colonial and postcolonial experiences, developments in Islamic thought and practice, and labor migration. This class is intended for juniors, seniors, and graduate students.

SM 371. (AFRC372, AFST373, NELC334) Africa and the Mid-East. (C) Troutt-Powell.

This seminar will explore the historical relationship between these two regions from the early modern age to the present. We will examine the history of trade, particularly the slave trade, and its cultural and political legacy. We will compare the experiences of European imperialism--how the scramble for Africa dovetailed with the last decades of the Ottoman Empire--with an eye to how this shaped nationalist movements in both regions. The course will also explore the decades of independence with a special eye towards pan-Africanism and pan-Arabism. We will also study the ramifications of the Arab-Israeli conflict on the relationship between African and Middle-Eastern countries, from Uganda to Ethiopia, from OPEC to Darfur. The course will pay close attention to migrations through the regions, whether forced or economic or religious. Whenever possible we will explore, through film and literature, how people in Africa and the Middle East see their connections, and their differences.

372. (AFST372, AFST542, HIST542) The History of Foreign Aid to Africa. (C) Cassanelli. Prerequisite(s): AFST/HIST 076, AFST 190, or AFST 256.

This course examines the history, politics, and significance of foreign aid to Africa since the late 19th century. While we do not typically think about the European colonial period in Africa in terms of 'foreign aid,' that era introduced ideas and

institutions which formed the foundations for modern aid policies and practices. So we start there and move forward into more contemporary times. In addition to examining the objectives behind foreign assistance and the intentions of donors and recipients, we will look at some of the consequences (intended or unintended) of various forms of foreign aid to Africa over the past century. While not designed to be a comprehensive history of development theory, of African economics, or of international aid organizations, the course will touch on all of these topics. Previous course work on Africa is strongly advised.

L/R 373. (URBS217) America in the 1960s. (A) Sugrue.

This course examines the political, cultural, and intellectual history of America between 1954 and 1974. It considers the civil rights movement, the New Frontier and Great Society, the Supreme Court and right politics, the rise of the New Right, the debate over Vietnam, student radicalism, sexual liberation movements, black power, the counterculture, the urban crisis, and white backlash. The course emphasizes the transformation of liberalism and the revitalization of conservatism, and the tensions between integration and separatism, between libertarianism and communitarianism that shaped the social movements of the sixties.

380. (JWST380, RELS320) Modern Jewish Intellectual and Cultural History. (C) Ruderman.

An overview of Jewish intellectual and cultural history from the late 18th century until the present. The course considers the Jewish enlightenment Reform, Conservative and Neo-Orthodox Judaism, Zionist and Jewish Socialist thought, and Jewish thought in the 20th century, particularly in the context of the Holocaust. Readings of primary sources including Mendelsohn, Geiger, Hirsch, Herzl, Achad-ha-Am, Baeck, Buber, Kaplan, and others. No previous background is required.

390. (EALC303) China & USSR Compared. (B) Waldron.

A comprehensive and multi-faceted survey of China and Russia, mostly in the twentieth century, through examining preludes and postludes, but focusing above all on their time as Communist states and sometimes quarreling Cold War allies. Of course we will cover the history, the geography, the economics, the leaders (Stalin, Mao), and the great events - not least the Second World War in each - always comparing, contrasting, and drawing linkages. We will also examine,

however, daily life and work for ordinary people, developments in society, and not least their common attempts at revolution, at somehow creating new and unprecedented polities, having populations of radically transformed new people. This informative, fascinating quest will take us from folklore to literature and the arts to dissent and religion and ecology, among other topics. As far as possible we will let their people speak for themselves, by assigning mostly translations of original sources including novels and memoirs, even poetry. A comprehensive assessment of the strategically critical Asian heartland - which at over 14 million square miles is larger than Canada, the United States, and Western Europe combined. Lectures, readings, midterm, short paper, and in-class final.

394. (EALC044) China and the World: Modern Times. Waldron.

History 394 is a comprehensive introduction to the last hundred years of China's relations with the world, with emphasis on American-Chinese relations, but within the necessary context of China's relations with other countries from Asia to Europe to Africa and elsewhere (as well as Washington's changing relations with Beijing). China's role in the world can be understood only when the full background and international context is made clear. This course has no prerequisites: freshmen and others lacking background will find it manageable and interesting. Students who have successfully completed this course will be well positioned to understand some of the most important of current events, and if they like, pursue the topics as careers (there will be no shortage, I assure you).

Although much will be said about diplomacy, and Chinese diplomatic strategy in particular, the mile-posts of the course will be a series of wars: World War I and its effects on China; the heroic Chinese war of resistance against Japan (1937-1945) in which, effectively without allies, the Chinese avoided defeat; the bitter Civil War that followed almost immediately (1946-1949) and brought Mao Zedong and his Communists to power while the predecessor Nationalist government fled to the island of Taiwan; then the Korean War (1950-1953) and the close Chinese-Soviet alliance that followed; The Taiwan Straits Crises (1954-1955, 1958, 1996); the Chinese-Indian war (1962) the origin of a situation now heating up; the Sino-Soviet border conflicts (1969); the Vietnam War (1955-1975) which changed the United States profoundly while reorientating China internationally; the (at the time) little noticed Chinese invasion of Vietnam

(1979) - and finally the increasingly tense situation today, between China and India, and China and her maritime neighbors from Japan to Indonesia, many U.S. allies.

L/R 395. (EALC105, EALC505) East Asian Diplomacy. (A) Dickinson.

This course will survey the history of relations among the great powers in East Asia from 1600 to the present. Special emphasis will be played upon the peculiarities of cross-national exchange in Asia (as compared to Europe), particularly the difficulties of relations among states possessing fundamentally different cultural traditions. We will explore the many informal, as well as formal, means of diplomacy in Asia over the past 400 years.

Departmental Honors Program (398, 400-401)

SM 398. Junior Honors in History. (B) Staff.

Open to junior honors candidates in history. Introduction to the study and analysis of historical phenomena. Emphasis on theoretical approaches to historical knowledge, problems of methodology, and introduction to research design and strategy. Objective of this seminar is the development of honors thesis proposal.

SM 400. Senior Honors in History I. (E) Staff.

Open to senior honors candidates in history who will begin writing their honors thesis during this seminar.

Undergraduate Upper Level Courses (403-499). Open to Graduate Students

SM 411. (COML411, ENGL234) Introduction to Written Culture, 14th - 18th Centuries. (C)

Chartier/Stallybrass.

SM 412. (AFRC372, EALC442, INTR290, NELC334) Topics in World History. (C) Waldron.

SM 414. Human Rights and History. (C) Nathans.

The idea of universal, inalienable rights--once dismissed by the philosopher Jeremy Bentham as "nonsense upon stilts"--has become the dominant moral language of our time, the self-evident truth par excellence of our age. Human rights have become a source of inspiration to oppressed individuals and groups across the world, the rallying cry for a global civil society, and not least, a controversial source of

legitimation for American foreign policy. This seminar asks: how did all this come to be? We will investigate human rights not only as theories embodied in texts, but as practices embedded in specific historical contexts. Are human rights the product of a peculiarly European heritage, of the Enlightenment and protestantism? How did Americans reconcile inalienable rights with the reality of slavery? Did human rights serve as a "civilizing" mask for colonialism? Can universal rights be reconciled with genuine cultural diversity? Through case studies and close readings, the seminar will work toward a genealogy of human rights.

415. (COML419) European Intellectual History of the Seventeenth Century. (A) Kors.

A survey based solely on primary sources of the main currents of seventeenth-century European thought: the criticism of inherited systems and of the authority of the past; skepticism, rationalism; empiricism; and the rise of the new natural philosophy. We will study deep conceptual change as an historical phenomenon, examining works that were both profoundly influential in the seventeenth-century and that are of enduring historical significance. There are no prerequisites, and one of the goals of the course is to make seventeenth-century thought accessible in its context to the twenty-first century student.

416. (COML416) European Intellectual History in the 18th Century. (B) Kors.

A survey based solely on primary sources of the main currents of eighteenth-century European thought: the "Enlightenment," deism; natural religion; skepticism; evangelical revival; political reform; utilitarianism; naturalism; and materialism. The course will focus on works widely-read in the eighteenth century and of enduring historical significance. There are no prerequisites, and one of the goals of the course is to make eighteenth-century thought accessible in its context to the twenty-first century.

SM 418. (COML418) European Intellectual History since 1945. (B) Breckman.

This course concentrates on French intellectual history after 1945, with some excursions into Germany. We will explore changing conceptions of the intellectual, from Sartre's concept of the 'engagement' to Foucault's idea of the 'specific intellectual'; the rise and fall of existentialism; structuralism and poststructuralism; and the debate over 'postmodernity.'

420. European International Relations from the Age of Enlightenment to the Great War. (A) McDougall.

This course will examine the international politics of Europe in the 18th and 19th centuries, up to the outbreak of World War I. During these centuries, the European great powers experienced significant internal transformations and also a revolution in their relations, both of which reinforced and accelerated each other. In the process, Europe asserted a dominant position in world politics, but also sowed the seed for the terrible catastrophes of the 20th Century. The course will address this transformation of European diplomacy with special attention to the rivalries between the great powers, the impact of nationalism and emerging mass politics, the interplay between military and economic power, and the relationship between the European powers and the rest of the world.

421. Europe and the World since 1914. (D) Ogle.

This course looks at Europe's interactions with other world regions throughout the twentieth century. Over the course of roughly a hundred years, Europeans have shaped the fates of peoples living beyond the western world, for instance through the impact of two world wars, European colonialism, and the global Cold War. At the same time, European societies 'at home' were not left unaffected by these interactions. Even today, Europeans are facing the legacies of some of these histories in immigration and the politics of religion and secularism for example. The past century also saw a dramatic shift in Europe's position in the world - from dominance to a loss of influence in the shadow of the United States and more recently, China.

The course spends significant time covering the histories of world regions other than Europe. It furthermore considers some interactions and exchanges between world regions from a social and cultural point of view. Because the class spans roughly a century, the content has to remain introductory and general, although a very basic familiarity with 20th-century international history is helpful.

L/R 425. World War I. (D) Holquist.

This survey course examines the outbreak, conduct, and aftermath of the First World War. The First World War put an end to the world of the 19th century and laid the foundations of the 20th century, the age of destruction and devastation. This course will examine the war in three components: the long-term and immediate causes of the

First World War; the war's catastrophic conduct, on the battlefield and on the home front; and the war's devastating aftermath. While we will discuss military operations and certain battles, this course is not a military history of the war; it covers the social, economic, political and diplomatic aspects that contributed to the war's outbreak and made possible its execution over four devastating years. No preliminary knowledge or coursework is required.

L/R 430. Rise and Fall of the Third Reich. (A) Childers.

The meteoric rise of Hitler's NSDAP in Germany, the nature of Nazi rule, and the final collapse of the Third Reich. The first half of the semester analyzes the appeal of the NSDAP- who joined the party, who voted for it, and why. Nazi mobilization tactics, campaign strategy, and grass-roots techniques, the content of the party's social appeals. The second half of the course concentrates on the Nazis in power, their use of terror and propaganda, their ideological objective, everyday life in the Third Reich, the possibilities of resistance to the regime. Special attention will be devoted to Nazi Jewish policy and the step that led to the "Final Solution" and the Holocaust.

L/R 431. A World at War: World War II in Europe and Asia. (B) Childers.

This course will examine the diplomatic origins, military course and domestic implications of World War II.

SM 440. (URBS420) Perspectives on Urban Poverty. (C) Fairbanks.

This course provides an interdisciplinary introduction to 20th century urban poverty, and 20th century urban poverty knowledge. In addition to providing an historical overview of American poverty, the course is primarily concerned with the ways in which historical, cultural, political, racial, social, spatial/geographical, and economic forces have either shaped or been left out of contemporary debates on urban poverty. Of great importance, the course will evaluate competing analytic trends in the social sciences and their respective implications in terms of the question of what can be known about urban poverty in the contexts of social policy and practice, academic research, and the broader social imaginary. We will critically analyze a wide body of literature that theorizes and explains urban poverty. Course readings span the disciplines of sociology, anthropology, urban studies, history, and social welfare. Primacy will be granted to critical analysis and deconstruction of

course texts, particularly with regard to the ways in which poverty knowledge creates, sustains, and constricts meaningful channels of action in urban poverty policy and practice interventions.

441. North American Colonial History. (A) Brown.

A survey of the development of American colonial society, 1607-1750, with emphasis on the regional differences between life in early New England, the Mid-Atlantic, and the South, as well as the relationships between British colonists, Native Americans, and African Americans.

442. America in the Era of the Revolution, 1763-1800. (B) St. George.

As a number of historians have observed, the American Revolution now may seem to have been the inevitable culmination of political, economic, and cultural changes underway in the eighteenth century. But for many whose lives were altered by its disruptive contours, it was more improbable than inevitable. How, then, are we to make sense of the Revolution? What were its causes? Its progress? Its extended "settlement," or period of resolution and questions during the course of the semester, we will need to keep our eyes open to changes afoot in many social fields: the ascendancy or democratic and egalitarian thought; the widespread development of consumerism and market capitalism; the linked forms processes of rebellion and nation-building; and the economic and strategic progress of the conflict itself.

SM 449. (JWST449, RELS422) God and Nature: Readings on the Encounter between Jewish Thought and Science. (C) Ruderman.

God and Nature examines the place of the natural world, medicine, and science in Jewish thought from antiquity to the modern era. It looks especially at a body of primary sources in Hebrew written during the age of the so-called "scientific revolution" and during its aftermath. The course is a seminar open to undergraduate and graduate students with a reading knowledge of classical Hebrew. Students without Hebrew with special interest in the subject might enroll with special permission from the instructor.

451. The U.S. and the World since 1898. (C) Offner.

This class examines the emergence of the U.S. as a world power since 1898, and considers both the international and domestic consequences of U.S. foreign relations. In one respect, the twentieth century was a strange time to become a

global empire: it was the period when colonial systems centered in Europe, Russia, Japan, and Turkey collapsed, and new nations emerged throughout Africa and Asia. This class explores the changing strategies of military, economic, and political intervention that the U.S. pursued as colonization lost legitimacy. Within that framework, the class invites students to think about several questions: How did the idea and practice of empire change over the twentieth century? How did the United States relate to new visions of independence emerging in Africa, Asia, and Latin America? How did global interactions both inform and reflect racial ideology in the United States? Finally, how did international affairs transform U.S. politics and social movements?

452. (INTR290) Topics in International Relations. (C) STAFF.

SM 455. (PPE 475, SOCI450) Topics in American History. (C) STAFF.

SM 489. (AFRC488, AFST489, URBS489) Africans Abroad: Emigrants, Refugees, and Citizens in the New African Diaspora. (C) Cassanelli.

This seminar will examine the experiences of recent emigrants and refugees from Africa, including many now living in the city of Philadelphia and the surrounding region. In addition to reading some of the historical and comparative literature on migration, ethnic diasporas, and transnationalism, students will have the opportunity to conduct research on specific African communities in Philadelphia or elsewhere in North America, Europe, or the Middle East. African emigres' relations with both their home and host societies will be explored and compared with the experience of other immigrant groups over the past century. Topics include reasons for leaving Africa, patterns of economic and educational adaptation abroad, changes in gender and generational roles, issues of cultural and political identity, and the impact of national immigration policies.

SM 490. (GRMN581, JWST490, RELS429) Topics in Jewish History. (C) Staff.

Reading and discussion course on selected topics in Jewish history.

SM 590. (COML502, ENGL501, GRMN510) TPCS IN LANG AND LIT. (A) Staff.

Graduate Courses (500-999)

SM 501. The Nature of Sex. (C) Brown.

What is natural about sex, gender, sexuality and reproduction? This course examines a range of social science, feminist, and historical theories that try to make sense of some of the most intimate and seemingly timeless features of the human experience: the difference between the sexes, the relationship between gender and anatomical sex, and the emotional and social dynamics of reproduction. Among the topics we will consider are the relationship between public and private life; the historic connections between patriarchy and capitalism; reproduction as a social and cultural as well as a biological phenomenon; class, race, ethnicity, and religion as alternative sites of identity; citizenship, legal personhood and contract; the dynamics of empire and conquest; feminism; sexuality; the history of the body; visual culture; postmodernist, poststructuralist, and postfeminist ways of thinking about sex and gender; the current debates about the meaning of marriage; and the challenge presented by transgender lives. The course is designed for graduate students but open to undergraduates with the permission of the instructor.

SM 530. (AFRC530) 20th Century Afro-American Historiography. (A) Staff.

This course will study major historical works on African American history for the post-1890 period. Emphasis on intellectual, political, and cultural history, and special attention to current debates about the relevance of this history and race generally to studies and students of United States history.

SM 533. (JWST533, RELS533) Topics in Ancient and Medieval Christianity. (B) Staff.

Topics vary.

SM 550. Topics in Jewish History. (C) Staff.

Reading and discussion course on selected topics in Jewish history.

SM 608. (CPLN800, SOCI608, URBS608) Proseminar in Urban Studies. (E) Birch.

Open to PhD students, this scholar-oriented seminar explores how academic researchers from different disciplines define researchable questions, craft research designs, and contribute to knowledge through an examination of important and/or recently published books and monographs with an urban focus. Required of all first-

and second- year CPLN doctoral students and those doctoral students enrolled in the Urban Studies Graduate Certificate Program, enrollment is limited to 15 students. Other doctoral students may enroll on a space available basis. Course requirements include completion of a major research paper on a topic selected in consultation with the instructor.

SM 610. (AFRC610, GSWS610, HSSC610, URBS610) Topics in American History. (A) Staff.

Reading and discussion course on selected topics in American history.

SM 620. (COML621, GRMN630, JWST620, RUSS618, SLAV623) Topics in European History. (A) Staff.

Reading and Discussion course on selected topics in European History.

SM 630. (EALC541, EALC726, EALC774, EALC780, SAST512) Topics in Asian History. (C) Staff.

Reading and discussion course on selected topics in Asian History.

SM 640. (NELC686) Topics in Middle Eastern History. (C) Staff.

Reading and discussion course on selected topics in Middle Eastern history.

SM 650. (AFRC650, AFST650) Topics in African History. (C) Staff.

Reading and discussion course on selected topics in African history

SM 660. (AFRC527) Topics in Latin American and Caribbean History. (C)

Staff.

Reading and discussion course on selected topics in Latin American and Caribbean history

SM 668. (AFRC668) Colloquium in the History of Law and Social Policy. (A) Berry.

This is a course in the history of law and policy-making with respect to selected social problems. Discussion of assigned readings and papers will elaborate the role law, lawyers, judges, other public official and policy advocates have played in proposing solutions to specific problems. The course will permit the evaluation of the importance of historical perspective and legal expertise in policy debates.

SM 670. (AFRC670, GSWS670) Topics in Trans Regional History. (C) Staff.

Reading and discussion course on selected topics in Transregional History

Proseminars and Research Seminars

SM 700. Proseminar in History. (E) Staff.

Weekly readings, discussions, and writing assignments to develop a global perspective within which to study human events in various regional/cultural milieus, c. 1400 to the present.

SM 710. (LAW 969) Research seminar in American history. (C) Staff.

Research seminar on selected topics in American history.

SM 720. (COML721, RELS738) Research in European History. (C) Staff.

Research seminar on selected topics in European history.

SM 730. Research Seminar in Asian History. (C) Staff.

Research seminar on selected topics in Asian history.

SM 740. (AFRC740, AFST740, GSWS740) Research Seminar in Middle Eastern History. (C) Staff.

Research seminar on selected topics in Middle Eastern history.

SM 750. (AFRC710) Research Seminar in African History. (C) Staff.

Research seminar on selected topics in African history.

SM 760. Research Seminar in Latin American and Caribbean History. (C) Staff.

Research seminar on selected topics in Latin American and Caribbean history.

SM 770. (LALS771) Res Sem: Transregional. (C)

Research seminar on selected topics in Transregional history.

HISTORY & SOCIOLOGY OF SCIENCE (AS) {HSSC}

Listings for STSC, the undergraduate major in Science, Technology, and Society (STSC) follow HSSC 999.

SM 502. Public History. (M) Barnes.

SM 503. Current Issues in the History of Medicine. (M) Barnes.

This seminar surveys a variety of popular and scholarly approaches to the study of medicine and its history, ranging from traditional physician-centered narratives to more recent cultural and epistemological methodologies. The potential values of journalistic, sociological, anthropological, geographical and other approaches to the historical study of health, disease, and health care will be explored.

SM 504. Reading Seminar in History of Science. (A) Adams.

Survey of major themes and figures in the history of western science, technology, and medicine since the Renaissance, through reading and discussion of selected primary and secondary sources. Topics include: Kepler, Galileo, Bacon, Newtonianism, Pasteur, the Industrial Revolution, the rise of German science, etc. Concurrent attendance at STSC 1 lectures is recommended.

SM 505. Seminar in the History and Sociology of Science. (A) Staff.

Seminar for first-year graduate students, undergraduate majors, and advanced undergraduates. Reading will introduce the student to current work concerning the effect of social context on science, technology, and medicine.

SM 508. Knowledge in Motion. (M) Kucuk.

SM 509. Oral History. (M)

SM 510. Science and Popular Culture. (C) Lindee.

This course will review major developments in biomolecular sciences and Many historians of science, technology and medicine have embraced the study of popular culture in recent years. They have drawn on a rich literature in mainstream history, on the history of reading, of the book, of museums, of oral culture, journalism, theater, and of the mass media including radio and television. Some have even proposed that popular culture provides insights into elite knowledge systems that

are not accessible in other kinds of sources, thus privileging what is publicly known over the traditional private textual, visual and material records of the archive or museum. In this graduate research seminar we will be exploring the relevance of the study of popular culture to the history of science, technology and medicine. Participants will write an original research paper in which they draw on popular culture as a resource for the interpretation of practices, theories and material resources in natural knowledge systems. Readings will generally focus on surveys that explicitly discuss methods, though we will also read some primary sources possibly including science fiction texts, memoirs of patients, engineers, physicians and scientists, gee-whiz popular science books, and didactic books intended for children.

SM 519. Topics in the Social History of Knowledge. (M) Tresch.

This reading seminar will cover writings on the social history of knowledge that are often mentioned by historians of science but less often read; it will give students a chance to read and discuss authors who are neglected, trendy, difficult, and/or foundational in this field. We will begin with Lovejoy's Great Chain of Being and critiques brought against it, moving to classic histories of scientific ideas with a focus on "mechanical philosophy" followed by recent rethinkings of "the Scientific Revolution." We will then visit major schools of historical interpretation: Foucault's genealogies of knowledge and power, Marxist criticism and the Frankfurt School, Max Weber's analysis of rationalization and the values of science, along with philosophical approaches to technoscience, biopower, the state of exception and artificial life. Throughout, our guiding questions will be the relationship between scientific knowledge and institutions, practices, technologies and values, as well as the connection between local case studies and the "big picture" of science and technology in the modern world. The seminar is open to graduate students from any discipline who want to engage critically with these works.

SM 521. Science and Politics. (M)

SM 524. Histories of the Cosmos. (M) Tresch.

SM 527. (COML525, PHIL525) Topics in Philosophy of Science. (M) Staff.

Topics will vary.

SM 528. (GSWS528) Gender and Science. (M) Lindee.

With a special focus on methods, this course explores the rich literature on gender and technical knowledge.

SM 529. Readings in Genetics and Genomics. (M) Lindee.

SM 531. Science and Imperialism. (M) Endersby.

This is a graduate reading seminar in which we will be trying to understand how science and imperialism shaped each other in helping to create the modern period (we will concentrate on the period 1750-1900). We will look at the ways in which the modern sciences took shape, paying particular attention to new schemes for naming various natural kinds (from animals, plants and people to chemical elements and electrical units) and at the types of scientific work (especially collecting, classifying and setting standards) that are the prerequisites for new systems of names.

In addition to analyzing specific examples, both of particular sciences and of particular imperial/colonial situations, we will be taking a critical look at some of the explanatory and theoretical models of science in its imperial context that have been offered by historians and sociologists. And we will be discussing whether such models help or hinder historians in their work.

SM 536. (SAST536) Imperial Medicine in the British World. (M) Mukharji.

SM 542. History and Sociology of Surgery. (M) Linker.

SM 546. (SAST586) Making India Modern. (C) Mukharji.

SM 548. (ANTH614) Current Issues in the History of Medicine. (M) Barnes.

This seminar surveys a variety of popular and scholarly approaches to the study of medicine and its history, ranging from traditional physician-centered narratives to more recent cultural and epistemological methodologies. The potential value of journalistic, sociological, anthropological, geographical, and other approaches to the historical study of health, disease and health care will be explored.

SM 550. The Information Sciences. (M) Staff.

This course will explore the emergence and widespread adoption in the early Cold War-period of a set of interrelated tools, techniques, and discourses organized

around the concept of "information." These emerging information sciences included not only new disciplines such as cybernetics, information theory, operations research, and ecology, but also some traditional physical sciences - such as biology and chemistry - as well as a broad range of social sciences, including economics, political science, sociology and urban planning. The focus of the course will be on tracing the important structural changes in post-war science that encouraged the adoption of the rhetoric of information (if not its substance), as well as on extending the relevance of these developments to a wide range of topics in the history of science, medicine, and technology.

SM 561. Disability: History and Theory. (M) Linker.

SM 564. History of Technology. (M) Cowan.

SM 565. Environmental History. (M) Staff.

A survey of recent and influential works in environmental history, including works from both within and outside the American environmental history canon. The focus is on situating emerging historiographical trends within the long-term development of the field and in relation to other closely allied fields, including the history of science, technology, and medicine, social and cultural history, urban history, agricultural history, world history, historical ecology, environmental anthropology, and ecocriticism.

SM 567. Industrial and Post Industrial Ages. (M) Voskuhl.

SM 581. Social Science and American Culture. Staff.

SM 588. Humanities Beyond the Human. (M) Benson.

SM 594. (COML523, GRMN526, GSWS525) THE TROUBLE WITH FREUD.

SM 597. Other Reasons: Interrogating Postcolonial Disenchantments. (M) Mukharji.

Postcolonial Theories, building largely on Frankfurt School theorists, have critiqued the totalizing aspirations of what it calls 'Enlightenment Rationality'. Such critiques have also fed a range of critiques of Science. At the heart of such critiques is a rather restricted and plastic idea of Science as a singular, homogenous body of knowledge that has steadily promoted the disenchantment of the world. In this course

we seek to destabilize this monolithic vision of science by revisiting its plural, heterogeneous histories. The course is particularly interested in exploring the historical entanglements between the sciences and the enchanted world of intangible entities such as spirits, ghosts and gods. The course will be divided into three broad sections. The first will deal with the theoretical critiques of 'Enlightenment Rationality' and 'Science' in postcolonial theory. The second will undertake a detailed and loosely chronological examination of the multifaceted entanglements of science and technology with the paranormal in the 19th and 20th centuries. Finally, the last section will explore the performative aspects of scientific rationality in colonial and postcolonial contexts in a bid to understand the background that led to the postcolonial theorization.

SM 610. (HIST610) Colloquium in American History. (M) Staff.

Reading & discussion course on selected topics in American history.

SM 611. Reading Seminar History of Medicine. (M) Staff.

A survey of key issues in the development of Western medicine during the past two centuries. Historiographically oriented, it will emphasize areas of recent historical concern such as the role of the patient, the institutionalization of medical care, and shifting conceptions of disease. The course itself will include some lecture as well as discussion. A paper will be required.

SM 620. (GSWS620, HIST620, JWST620, RELS622) Colloquium in European History. (M) Staff.

This course will focus on problems in European political, social, cultural, and economic development from 1750 to the close of the second World War. Readings will be major works in the different fields of European historical scholarship, ranging from family to diplomatic history and covering a wide variety of methodological approaches.

SM 622. Darwin. (M) Adams.

SM 626. Research Seminar in History of Technology. (C) Staff.

This graduate seminar provides a structured environment in which each student executes an independent research project. Early class meetings focus on the craft of researching and writing scholarly articles. Later meetings are devoted to discussion of students progress on their research projects. Each student defines their own research

topic in the history of technology, subject to the Professor's approval.

SM 629. Readings in Genetics and Genomics. (C) Lindee.

SM 661. Cold War Technical Knowledge. (M) Lindee.

SM 665. Research Seminar in the History of Medicine. (M) Aronowitz.

SM 677. Scientific Careers. (M) Staff.

SM 690. Publish or Perish. (M) Staff.

999. Graduate Independent Study. (C)

Available to doctoral students only.

SM 062. American Way of War. (M) Hersch.

SM 069. Computer Worlds. (C) Voskuhl.

SM 077. Voyages of Discovery. (M) Petrie.

Across the nineteenth century, voyages of sail and steam made possible the creation of empires and a globalized world, through the transportation of people and commodities. Similarly, this course is a voyage of discovery based on the study of actual ship's logs held in Penn's Rare Book collection. We will use these accounts to guide our investigation into the science, technology, medicine, economic and environmental history of life at sea and in the ports of call for these ships around the Indian and Atlantic Oceans. Collectively, the seminar will produce an online exhibition built on logs, diaries and other sources held at Penn, in other local collections and gleaned from archives around the world.

L/R 168. Environment and Society. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Benson.

This course examines contemporary environmental issues such as energy, waste, pollution, health, population, biodiversity and climate through a historical and critical lens. All of these issues have important material, natural and technical aspects; they are also inextricably entangled with human history and culture. To understand the nature of this entanglement, the course will introduce key concepts and theoretical frameworks from science and technology studies and the environmental humanities and social sciences.

169. (ENVS169) Engineering Planet Earth. (C) Etienne Benson.

203. (HSOC203) Science, Medicine and Technology in Africa. (M)

SM 208. Science and Religion: Global Perspectives. (M) Harun Kucuk.

This survey course provides a thematic overview of science and religion from antiquity to the present. We will treat well-known historical episodes, such as the emergence of Muslim theology, the Galileo Affair and Darwinism, but also look beyond them. This course is designed to cover all major faith traditions across the globe as well as non-traditional belief systems such as the New Age movement and modern Atheism

SM 217. Science, Technology and Development in South and Southeast Asia. (M) Petrie.

SM 231. (HSOC231) Insect Epidemiology Pests, Pollinators and Disease Vectors. (M)

Malaria, Dengue, Chagas disease, the Plague--some of the most deadly and widespread infectious diseases are carried by insects. The insects are also pernicious pests; bed bugs have returned from obscurity to wreak havoc on communities, invasive species decimate agricultural production, and wood borers are threatening forests across the United States. At the same time declines among the insects on which we depend--the honeybees and other pollinators--threaten our food security and ultimately the political stability of the US and other nations. We will study the areas where the insects and humans cross paths, and explore how our interactions with insects can be cause, consequence or symptom of much broader issues. This is not an entomology course but will cover a lot about bugs. Its not a traditional epidemiology course but will cover some fascinating epidemiological theory originally developed for the control of disease vectors. Its not a history cour but will cover past epidemics and infestations tha have changed the course of the history of cities a reversed advancing armies. Assignments will includ essays and presentations.

SM 261. (HIST231) TOPICS IN US HISTORY. (C) Greene.

Topics vary

SM 279. (ENVS279, HIST320, HSOC279) Nature's Nation: Americans and Their Environment. (M) Greene.

The United States has been described as "nature's nation. The presence of enormous, resource-rich and sparsely

settled continent has been a component of American identity, prosperity and pride--it has even been described as the source of the democratic political system. From the beginning, Americans transformed their natural environment, even as, over time, they grew to value environmental preservation and protection. This course traces the interaction of Americans and the natural world in, studying how Americans changes the natural environment over time, in order to understand why environmental change occurred and occurred in the manner it did. What have Americans believed about the nature of the nation's nature, and what attitudes and policies have followed from these ideas? After surveying American environmental history from the 17th to the 20th century, we will examine specific topics and problems in the long relationship between Americans and their environment. (Possible topics: national parks and wilderness preservation, environmental politics, chemical pollution, invasive species). This seminar fulfills the researcj requirement for the History major because students will complete a 20- page paper of original research.

SM 308. Science, Technology and Global Capitalism. (C) Staff.

Modern capitalism has been defined by the circulation of commodities, from gold in the 16th century to sugar in the 17th, tobacco in the 18th, cotton in the 19th, oil in the 20th, and financial derivatives in the 21st. But the world is always messy and complex, rather than neatly divided into products and goods. How, why, and for whose benefit do we divide nature into the abstractions of the marketplace? Who holds power over where, why, and how that happens? In this seminar, we'll use a wide range of scholarship from the humanities, social sciences, and the sciences, along with primary texts and other sources, in order to understand the close links among global capitalism, science and technology, and the natural world.??

SM 310. Futurology. (M) Adams. Prerequisite(s): STSC 001,STSC 110.

This seminar will explore past attempts by scientists and visionaries to predict the future. After exploring the nature and methodological problems inherent in prognostication that have caused most such attempts to fail, we will focus on a series of interesting essays, stories, and visionary works that seem to have successfully foreseen aspects of the world we live in, and attempt to analyze what they got right, what they got wrong, and why. We will conclude with critical, historically informed analysis of some current scientific

prognostications about our short, intermediate, and longer term destiny. Grading will be based on class participation, student reports, several short papers, and a final research paper.

SM 314. (ARCH314) Cosmopolitan Urbanism: Rio de Janeiro. (M) Barber and Tresch.

SM 316. Science, Technology and Society in Modern East Asia. (M)

The course aims to survey the history of science and technology in East Asian countriesChina, Japan and Koreasince the late 19th century. Since Japan was the only nation in East Asia that succeeded in modernizing itself by adopting Western science, technology and politics, it will be studied first. The Chinese and Korean cases then will be reviewed with different angles. The course will emphasize the mutual influence between science & technology and society to answer how these countries became major industrial powers in the 21st century.

SM 328. What is Prediction?. (M) Kucuk.

This course is an investigation into the notion of prediction from antiquity to the present. By looking closely at key practices from Homeric divination to modern acturial science and from early modern astrology to contemporary climate models, the course seeks to historicize the way we engage with the future. As part of the course, students also explore the role that methodology, models, causation and big data have played in predictive practices. The readings include a mixture of primary sources, modern scholarship and journalism.

SM 340. (HSOC340) The Curing Machine: Hospitals in Time. (M) Gina Greene.

SM 363. Technology & Democracy. (M) Voskuhl.

What is the relationship between technology and politics in global democracies? This course explores various forms of technology, its artifacts and experts in relation to government and political decision-making. Does technology "rule" or "run" society, or should it? How do democratic societies balance the need for specialized technological expertise with rule by elected representatives? Topics will include: industrial revolutions, factory production and consumer society, technological utopias, the Cold War, state policy, colonial

and post-colonial rule, and engineers' political visions.

SM 364. (HIST305) Technologies of Research: Digital Methods in Action. (M)

This course asks three questions: What is technology? What is research? And how does technology aid research? These three questions beg a fourth: how can we spend a semester on three questions? Well, the answers to each of these questions may seem apparent, but think about them for more than a few seconds and you'll be hard pressed to offer a satisfactory answer. The term technology conjures images of recent, micro-processors, robots, or the Internet. But think deeper about the terms meaning for a moment and you'll see that such ancient, elemental things as mathematics and the alphabet are technologies, too. Likewise, you'll find that something we have all done before—research—is an opaque and contestable term. The question of research gets at the very processes through which knowledge is produced.

SM 371. Emerging Technologies. (M) Roberts.

SM 411. (HSOC411) Sports Science Medicine Technology. (M)

Why did Lance Armstrong get caught? Why do Kenyans win marathons? Does Gatorade really work? In this course, we won't answer these questions ourselves but will rely upon the methods of history, sociology, and anthropology to explore the world of the sport scientists who do. Sport scientists produce knowledge about how human bodies work and the intricacies of human performance. They bring elite (world-class) athletes to their laboratories—or their labs to the athletes. Through readings, discussions, and original research, we will find out how these scientists determine the boundary between "natural" and "performance-enhanced," work to conquer the problem of fatigue, and establish the limits and potential of human beings. Course themes include: technology in science and sport, the lab vs. the field, genetics and race, the politics of the body, and doping. Course goals include: 1) reading scientific and medical texts critically, and assessing their social, cultural, and political origins and ramifications; 2) pursuing an in-depth

The course fulfills the Capstone requirement for the HSOC/STSC majors. Semester-long research projects will focus on "un-black-boxing" the metrics sport scientists and physicians use to categorize athletes' bodies as "normal" or "abnormal." For example, you may investigate the

test(s) used to define whether an athlete is male or female, establish whether an athlete's blood is "too" oxygenated, or assess whether an athlete is "too" fast (false start). Requirements therefore include: weekly readings and participation in online and in-class discussions; sequenced research assignments; peer review; and a final 20+page original research paper and presentation.

SM 436. (HSOC436) Biopiracy: Medicinal Plants and Global Power. (M) Mukharji.

Biopiracy has emerged as the name of conflict between multinational pharmaceutical companies attempting to get genetic patents on medicinal plants and indigenous communities in the Global South who have long known and used these plants for medicinal purposes. Today the story of Biopiracy is an unfolding story of plants, patents and power. The extraction and commercial exploitation of plants and knowledge about them from the Global South however is not new. It has been happening at increasing pace for at least the last two centuries. Both the anti-malarial drug quinine and the cancer drug vincristine for instance have their plant-origins in the Global South where local communities used them medicinally long before their discovery by biomedicine. This course will put the current debates around Biopiracy in context and explore how the entanglements of plants and power have changed or not changed.

SM 442. (HSOC442) Hospital as Curing Machine. (M) Gina Greene.

This course examines the technological, scientific, and spatial evolution of the modern hospital from the miasmatic, vermin-infested medieval European hospital-as-almshouse, to the late twentieth-century ideal of the modern hospital as a condenser of sophisticated technologies, scientific expertise, and Taylorist efficiencies. In so doing, we will see how designers of hospital space, consciously or not, have striven to realize the mechanized, technological vision of the hospital as curing machine a phrase first invoked by 18th century French surgeon and anatomist Jacques Tenon. While the early nineteenth-century hospital had been a locus for fears about contagion, death, and disease in a pre-germ theory world, through its eventual integration of antiseptic practices, spatially produced zones of medical expertise (the operating suite, the laboratory, pediatric and maternity wards), novel technologies (incubators, hyperbaric chambers, x-rays, ultrasounds) and factory-like efficiencies

the hospital came into its own as the epitome of rational modernist space. But, over the course of its evolution, the modern hospital changed as well: as an incubator for super-bugs, as an engine for projects of renewal, and as a site for the cultural transformation of the meaning of birth, death, and health itself.

SM 443. Science and the Senses: Visual Culture, Material Objects. (M) Carin Berkowitz.

Using various types of readings, podcasts, and visits to area museums and centers of research, this course examines the relationships between seeing, sensing, and knowing in science. What roles do the senses and the material objects they observe play in production of science, and how has that changed historically? Are the senses reliable and standardizable, and if so, how can we talk about them with a common vocabulary? Are some more important than others? We will begin to answer those questions historically, following the role of the senses in science from the early modern period up to the present. We will look at ways in which vision was constructed as the primary sense during the Enlightenment and at ways in which it was made objective and instrumentalized in the modern period. We will also look at objects themselves. How do museum displays, illustrations, jarred specimens, photographs, and movies make and convey knowledge

SM 461. (HSOC461) The Child in the City. Gina Greene.

This course examines the problem of the child in urban space in 19th and 20th century European and American discourses. This course does not propose to recover the subjective experience of the child but, rather, views the child as an object around which numerous adult anxieties connected to industrialization, urbanization, and modernity itself cohered. Discourses on public health, environmental pollution, sexuality, criminality, and racial degeneration all focused their attention, anxieties, and energies on how to deal with the unique vulnerability of the child in modern urban space. This interdisciplinary course focuses specifically on atmospheres, environments, and architectures in urban settings as diverse as Chicago, New York, Paris, and London. We will examine how the built environment was envisioned as part of a set of critical technologies for resolving the threat that urban space posed to the child. We will explore objects and environments as diverse as tenement babycries, war-time floating hospitals, open-air schools, adventure playgrounds in post-

WWII London, car-less communities in Radburn, NJ, and American child books about urban blight and renewal.

SM 462. Technological & Business Innovation: Historical Perspectives. (M) Gross.

This course will explore the relationship between technological innovation and business history. By looking at a series of case studies of technologically driven firms - both U.S and international -- we will develop a more sophisticated and historically informed model of the relationship between technological, economic, legal and political developments in the late 19th and 20th centuries.

SCIENCE, TECHNOLOGY, & SOCIETY (STSC)

L/R 001. (HSOC001) Emergence of Modern Science. (A) May be counted toward the Hum/SocSci or NatSci/Math Sectors. Class of 2010. Adams.

During the last 500 years, science has emerged as a central and transformative force that continues to reshape everyday life in countless ways. This introductory course will survey the emergence of the scientific world view from the Renaissance through the end of the 20th century. By focusing on the life, work and cultural contexts of those who created modern science, we will explore their core ideas and techniques, where they came from, what problems they solved, what made them controversial and exciting and how they related to contemporary religious beliefs, politics, art, literature, and music. The course is organized chronologically and thematically. In short, this is a "Western Civ" course with a difference, open to students at all levels.

L/R 002. (HIST036, HSOC002) Medicine in History. (A) History & Tradition Sector. All classes. Barnes.

This course surveys the history of medical knowledge and practice from antiquity to the present. No prior background in the history of science or medicine is required. The course has two principal goals: (1) to give students a practical introduction to the fundamental questions and methods of the history of medicine, and (2) to foster a nuanced, critical understanding of medicine's complex role in contemporary society. The course takes a broadly chronological approach, blending the perspectives of the patient, the physician, and society as a whole-- recognizing that medicine has always aspired to "treat" healthy people as well as the sick and infirm. Rather than history

"from the top down" or "from the bottom up," this course sets its sights on history from the inside out. This means, first, that medical knowledge and practice is understood through the personal experiences of patients and caregivers. It also means that lectures and discussions will take the long-discredited knowledge and treatments of the past seriously, on their own terms, rather than judging them by today's standards. Required readings consist largely of primary sources, from elite medical texts to patient diaries. Short research assignments will encourage students to adopt the perspectives of a range of actors in various historical eras.

003. (HSOC003, SOCI033) Technology and Society. (B) Society Sector. All classes. Staff.

Technology plays an increasing role in our understandings of ourselves, our communities, and our societies, in how we think about politics and war, science and religion, work and play. Humans have made and used technologies, though, for thousands if not millions of years. In this course, we will use this history as a resource to understand how technologies affect social relations, and conversely how the culture of a society shapes the technologies it produces. Do different technologies produce or result from different economic systems like feudalism, capitalism and communism? Can specific technologies promote democratic or authoritarian politics? Do they suggest or enforce different patterns of race, class or gender relations? Among the technologies we'll consider will be large objects like cathedrals, bridges, and airplanes; small ones like guns, clocks and birth control pills; and networks like the electrical grid, the highway system and the internet.

SM 013. The Scientific Revolution. (C) Adams.

The Scientific Revolution of the sixteenth and seventeenth centuries created the intellectual, philosophical, social, and institutional foundations of modern science, fundamentally changing the way we see the universe and our place within it. In this seminar we will take a biographical approach, exploring that revolution by examining the lives, ideas and achievements of some of the period's most renowned and consequential thinkers, among them Copernicus, Kepler, Galileo, Bacon, Descartes, and Newton. In the course of our biographical explorations, we will also consider the rise of scientific societies, the "scientific method," "experimental philosophy," the impact of new technologies (including the telescope and

the microscope), and the political and religious implications of the new scientific world view.

SM 021. From Darwin to DNA. (M) Lindee.

026. (PHIL026) Relativity and the Philosophy of Space and Time. (A) Natural Science & Mathematics Sector. Class of 2010 and beyond. Dometer. Also fulfills General Requirement in Science Studies for Class of 2009 and prior.

This course will present a detailed introduction to Einstein's special and general theories of relativity and will examine their historical development and philosophical significance. No previous physics or philosophy will be presupposed, and only high school mathematics will be used.

SM 028. (HIST025, HSOC025, RELS116) Western Science, Magic and Religion 1600 to the present. (C) History & Tradition Sector. All classes. Kuklick.

Throughout human history, the relationships of science and religion, as well as of science and magic, have been complex and often surprising. This course will cover topics ranging from the links between magic and science in the seventeenth century to contemporary anti-science movements.

SM 032. (HSOC032) Risky Business. (M) Schwartz.

SM 079. Animal City: Humans & Animals in Urban America 1850-present. (C) Greene.

SM 107. (HSOC107) Science, Technology & Medicine in Colonial India. (C) P. Mukharji.

What is the relationship between science and empire? Is colonial science somehow different from science more generally? These are some of the questions this course seeks to explore. By focussing on the history of British India? which included India, Pakistan, Bangladesh, Sri Lanka and Myanmar? the course examines in depth the role and nature of science within colonial societies. In so doing, the course also explores the specific histories of botany, medicine, telegraphy, agronomy, anthropology, physics and statistics. While attending to the specific people, practices and ideas involved in these sciences in the colonies, the course is also interested in locating specific colonial histories within the larger history of science.

SM 108. (COML224, PHIL225) Introduction to Philosophy of Science. (M) Domotor.

A discussion of some philosophical questions that naturally arise in scientific research. Issues to be covered include: The nature of scientific explanation, the relation of theories to evidence, and the development of science (e.g., does science progress? Are earlier theories refuted or refined?).

L/R 110. (COML074, ENGL075, HIST117, HSOC110) Science and Literature. (B) Arts & Letters Sector. All Classes. Adams.

This course will explore the emergence of modern science fiction as a genre, the ways it has reflected our evolving conceptions of ourselves and the universe, and its role as the mythology of modern technological civilization. We will discuss such characteristic themes as utopias, the exploration of space and time, biological engineering, superman, robots, aliens, and other worlds--and the differences between European and American treatment of these themes.

SM 123. (HSOC123) Darwin's Legacy: The Evolution of Evolution. (B) Living World Sector. All classes. Adams.

Darwin's conceptions of evolution have become a central organizing principle of modern biology. This lecture course will explore the origins and emergence of his ideas, the scientific work they provoked, and their subsequent re-emergence into modern evolutionary theory. In order to understand the living world, students will have the opportunity to read and engage with various classic primary sources by Darwin, Mendel, and others. The course will conclude with guest lectures on evolutionary biology today, emphasizing current issues, new methods, and recent discoveries. In short, this is a lecture course on the emergence of modern evolutionary biology--its central ideas, their historical development and their implications for the human future.

SM 135. (HIST035) Emergence of Modern Biology. (C) Natural Science & Mathematics Sector. Class of 2010 and beyond. Ceccatti.

This course covers the history of biology in the 19th and 20th centuries, focusing on the development of evolutionary biology, cell biology, embryology, genetics, and molecular biology. We will have three main goals: first, to delineate the content of the leading biological theories and experimental practices of the past two centuries; second, to situate these theories

and practices in their historical context, noting the complex interplay between them and the dominant social, political, and economic trends; and, third, to critically evaluate various methodological approaches to the history of science. The course is intended for students with some background in the history of science as well as in biology, although no specific knowledge of either subject is required.

L/R 145. (HIST146, HSOC145) Comparative Medicine. (A) History & Tradition Sector. All classes. Mukharji.

This course explores the medical consequences of the interaction between Europe and the "non-West." It focuses on three parts of the world Europeans colonized: Africa, South Asia, and Latin America. Today's healing practices in these regions grew out of the interaction between the medical traditions of the colonized and those of the European colonizers. We therefore explore the nature of the interactions. What was the history of therapeutic practices that originated in Africa or South Asia? How did European medical practices change in the colonies? What were the effects of colonial racial and gender hierarchies on medical practice? How did practitioners of "non-Western" medicine carve out places for themselves? How did they redefine ancient traditions? How did patients find their way among multiple therapeutic traditions? How does biomedicine take a different shape when it is practiced under conditions of poverty, or of inequalities in power? How do today's medical problems grow out of this history? This is a fascinating history of race and gender, of pathogens and conquerors, of science and the body. It tells about the historical and regional roots of today's problems in international medicine.

152. (HSOC157) Chinese Science. (C) Staff.

This course explores the social, cultural and political contexts of scientific knowledge in China over the course of two millennia, through a diverse cast of historical actors spanning emperors and midwives, Buddhist monks and Jesuits, eminent authorities and everyday people. We will examine the evolution of various learned traditions (astronomy, alchemy, medicine, natural history) that sought to define and understand the heavens, the earth and the body - and the manner in which those forms of knowledge could be deployed for the good of state, society or individual. In the process, we will compare Chinese experience to other cultures and evaluate the status and dynamics of Chinese traditions in the modern era of Western

political and scientific dominance. No prior knowledge of Chinese history is assumed. Class discussion will be a part of each meeting.

160. (SOC1161) The History of the Information Age. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

Certain new technologies are greeted with claims that, for good or ill, they must transform our society. The two most recent: the computer and the Internet. But the series of social, economic and technological developments that underlie what is often called the Information Revolution include much more than just the computer. In this course, we explore the history of information technology and its role in contemporary society. We will explore both the technologies themselves--calculating machines, punched card tabulators, telegraph and telephone networks, differential analyzers, digital computers, and many others--and their larger social, economic and political contexts. To understand the roots of these ideas we look at the prehistory of the computer, at the idea of the post-industrial or information society, at parallels with earlier technologies and at broad historical currents in the United States and the world.

SM 162. (HSOC152) Technology and Medicine in Modern America. (L) Staff.

Medicine as it exists in contemporary America is profoundly technological; we regard it as perfectly normal to be examined with instruments, to expose our bodies to many different machines; and to have knowledge produced by those machines mechanically/electronically processed, interpreted and stored. We are billed technologically, prompted to attend appointments technologically, and often buy technologies to protect, diagnose, or improve our health: consider, for example, HEPA-filtering vacuum cleaners; air-purifiers; fat-reducing grills; bathroom scales; blood pressure cuffs; pregnancy testing kits; blood-sugar monitoring tests; and thermometers. Yet even at the beginning of the twentieth century, medical technologies were scarce and infrequently used by physicians and medical consumers alike. Over the course of this semester, we will examine how technology came to medicine's center-stage, and what impact this change has had on medical practice, medical institutions and medical consumers - on all of us!

179. (ENVS179, HSOC179)

Environmental History. (M) Greene.

The field of environmental history studies human history in the context of the biological and physical setting we call "nature" or "the environment." It focuses on the interactions between natural actors (landscapes, weather, plants, animals, microorganisms) and human actors. Just as human actors have shaped the biological and physical world, so actors from the biological and physical world have shaped human history. This course explores the history of American environmental change as a set of questions about how and why the natural world have changed over time. Topics include: European encounters with the Americas, industrialization, conservation of natural resources, preservation of wilderness and wildlife, urban pollution and health, the rise of environmentalism, and the impact of warfare. In each case we will ask how natural actors and Americans' ideas about nature interacted with political institutions, economic arrangements, social groups and cultural values, in order to explain the course of environmental change. We will explore the multiple, shifting meanings of "nature," trace changes in environmental use and impact, and evaluate past events in light of current ideas about sustainability.

182. (GSWS182) Social Science and American Culture. (C) Staff.

This course examines the role of social science in the United States during the 20th century. There have been popular social scientific theories since the early 19th century, when the craze spread for interpreting individuals' character by feeling the bumps on their heads. But popular social science is really a 20th century phenomenon. And popular culture influenced academic research. Our coverage cannot be comprehensive. We have insufficient time to treat all human sciences equally. For example, there is enormous popular interest in paleoanthropology and archaeology, but we will not discuss these in class-although you might choose to write your research paper for the course on a specific aspect of one of these disciplines.

201. Hist Phys Sci 19th & 20th Century. (M) Ashrafi.

Over the last two centuries, scientists have produced a broad range of knowledge about the physical world, from light to electromagnetism to atoms to nuclei, facilitating or explaining an ever increasing mastery over the natural world. Because of their success, these developments played an important role in forming our views of how

to effectively generate knowledge of the natural world. This course will examine some of the major developments in the physical sciences during the 19th and 20th century, asking how that knowledge and the means by which it was produced related to institutions, technical practices and broader cultural knowledge and knowledge production to explore how past practices have, or have not, left their traces in later science. The course will meet twice a week for lecture and discussion. Readings will consist of Pursuing Power and Light:

Technology and Physics from James Watt to Albert Einstein by Bruce J. Hunt
When Physics Became King by Iwan Rhys Morus
Night Thoughts of a Classical Physicist by Russel McCormmach as well as articles from a course reader. Students will produce three short papers (about three pages) and a term paper (about ten pages)

L/R 212. (HSOC212) Science Technology and War. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Lindee.

In this survey we explore the relationships between technical knowledge and war in the nineteenth and twentieth centuries. We attend particularly to the centrality of bodily injury in the history of war. Topics include changing interpretations of the machine gun as inhumane or acceptable; the cult of the battleship; banned weaponry; submarines and masculinity; industrialized war and total war; trench warfare and mental breakdown; the atomic bomb and Cold War; chemical warfare in Vietnam; and "television war" in the 1990s.

L/R 253. (COML253, ENGL240, GSWS252, HSOC253) Freud: The Invention of Psychoanalysis. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Weissberg. All readings and lectures in English General Requirement VII: Science Studies.

No other person of the twentieth century has probably influenced scientific thought, humanistic scholarship, medical therapy, and popular culture as much as Sigmund Freud. This seminar will study his work, its cultural background, and its impact on us today.

SM 260. (ANTH260, SOC1260) Cyberculture. (C) Staff.

Computers and the internet have become critical parts of our lives and culture. In this course, we will explore how people use these new technologies to develop new conceptions of identity, build virtual communities and affect political change. Each week we'll see what we can learn by thinking about the internet in a different

way, focusing successively on hackers, virtuality, community, sovereignty, interfaces, algorithms and infrastructure. We'll read books, articles, and blogs about historical and contemporary cultures of computing, from Spacewar players and phone phreaks in the 1970s to Google, Facebook, World of Warcraft, WikiLeaks, and Anonymous today. In addition, we'll explore some of these online communities and projects ourselves and develop our own analyses of them.

SM 269. Computers, Ethics, and Social Values. (M) Staff.

This course will explore the various social implications of information technology: social, cultural, political and economic. Topics will include technology policy, organizational change, globalism and the digital divide, intellectual property rights, Linux and the free software movement, cyber libertarianism, and the rise and fall of the dot.com economy.

SM 272. (ENVS272) Energy in America. (M) Greene.

Energy is at the center of many discussions of today's world. How central is an apparently unlimited supply of energy to a healthy economy? What is the importance of sources of energy supply to national security? How can we expend the energy we need to foster human life as we know it without allowing climate change to disrupt the existing global environments that sustain the lives of humans and other living species in accustomed ways? How crucial is the current level of energy use to patterns of American consumption, and how willing are Americans to alter their consumption habits in order to reduce energy use? What is the connection between various sources of energy and the relationships of social, economic, and political power that exist in the U.S. today. This course will examine changes in energy sources, energy use, and energy technologies across American history in order to help students understand how the U.S. and the world arrived at its present situation with regard to energy and to understand the complex technological, environmental, social, economic, and political challenges implicit in any effort to modify the current trajectories of energy use.

SM 288. (SOC1282) Knowledge and Social Structure. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

Throughout human history, the relationships of science and religion, as well as of science and magic, been complex and often surprising. This course we cover

topics ranging from the links between magic and science in the seventeenth century to contemporary anti-science movements.

299. Independent Study. (C)

SM 307. (HSOC307) Globalization & Medicine in Colonial & Postcolonial South Asia. (C) P. Mukharji.

This seminar will explore a wide range of themes at the intersection of globalization and therapeutic cultures in South Asia and amongst South Asian diasporas. To begin with the course understands 'supraterritoriality' as the key feature of globalization and proceeds to interrogate the myriad ways in which this supraterritoriality was produced, consumed, used and debated within the therapeutic cultures that have been, and on occasion still are, available in South Asia—both in reality and symbolically. Each week, through a specific case study, framed by a few theoretical readings, we will attempt to deepen and problematize the simple definition of globalization with which we start the course. Throughout the course there will be a strong emphasis on combining case study-based empirical material and theoretical interventions in Cultural Theory and Postcolonial Studies.

SM 312. (HSOC312) Weapons of Mass Destruction. (C) Lindee.

The course explores the historical development of traditional weapons of mass destruction such as chemical, nuclear and biological agents, in addition to newer and seemingly non-traditional weapons such as land mines and civilian aircraft that can also be employed to cause large numbers of injuries and deaths among civilian and military populations. Through case studies in technology and public health, students will evaluate the medical, scientific, environmental, and cultural ramifications of these weapons and their effect on human health and society by analyzing the rise of the military-industrial-academic-complex in twentieth century America.

SM 318. Experiment in the Modern Life Sciences. (M) Staff.

Experiments on living material are now controversial for ethical reasons (think stem cells, animal experimentation and animal rights, etc), but the scientific merit of experimenting on the living is rarely challenged. We tend to take for granted that experiments are the best way to understand biology, but in the nineteenth century, the opposite was true. Why has this changed, and what are the implications of the change? Is the appearance of

consensus around the role of experiment in biology simply a false impression? These are the sorts of questions that this course will explore through popular, scientific, and historical literature.

SM 322. (ENGL248) Edgar Allan Poe's Science. (C) Tresch.

You probably read Poe first in junior high, and his works are often treated as juvenile: cheap thrills, campy horror, self-indulgent longing. But Poe also engaged with the most serious issues faced by his period, from politics and philosophy to industrialization and science. His works dealt with these concerns in a variety of ways, while reflecting all along about the conditions of literature in a newly commercialized marketplace. This seminar will look at Poe's literary innovations through the lens of the developing technology and science of the early republic. It will examine the political importance of new institutions for research and diffusion as well as various emerging venues for popular science, including the journals in which Poe wrote as an early science reporter. The course thus explores the peculiar situation of science and technology in the early USA, at the same time as it reveals the varied and complex literary production of Poe in a new and revealing light.

SM 329. (GSWS330) Gender and Science. (M) Lindee.

This course explores the gendered nature of science as social endeavor, intellectual construct and political resource. We consider the rise of gentlemanly science, masculinity and the arms race, the notion of a "Successor science" grounded in feminist theory, and the historical role of gender in defining who can do science and what counts as scientific data. We also explore how science has interpreted male-female differences. Our goal is to understand the profound impact of social place in the history of science, and thereby to understand the social nature of scientific knowledge.

SM 368. (GRMN239) Sustainability & Utopianism. (M) Wiggin.

This seminar explores how the humanities can contribute to discussions of sustainability. We begin by investigating the contested term itself, paying close attention to critics and activists who deplore the very idea that we should try to sustain our, in their eyes, dystopian present, one marked by environmental catastrophe as well as by an assault on the educational ideals long embodied in the humanities. We then turn to classic humanist texts on

utopia, beginning with More's fictive island of 1517. The "origins of environmentalism" lie in such depictions of island edens (Richard Grove), and our course proceeds to analyze classic utopian texts from American, English, and German literatures. Readings extend to utopian visions from Europe and America of the nineteenth and twentieth centuries, as well as literary and visual texts that deal with contemporary nuclear and flood catastrophes. Authors include: Bill McKibben, Jill Kerr Conway, Christopher Newfield, Thomas More, Francis Bacon, Karl Marx, Henry David Thoreau, Robert Owens, William Morris, Charlotte Perkins Gilman, Ayn Rand, Christa Wolf, and others.

SM 379. (HSOC379) Animals in Science Medicine Technology. (C) Greene.

This course examines different ways of knowing about animals, categorizing animals and relating to animals, through the sciences, medicine, and technological practices. It will explore the history of animals in human society, changes over time in human-animal relationships, and different sites of human-animal relationships and of knowledge production about animals. Topics may include: domestication, animal breeding, work animals and pets, animal archaeology, veterinary medicine, zoos, wildlife science and management and animal welfare. This is a seminar that will include visiting speakers, workshop exercises, films, and on-campus field trips. Student will write several short papers and a research project

SM 388. Who Owns the Past. (M) Staff.

Stories told about the past have long been understood as moral lessons. And historical narratives have also been susceptible to different readings by opposed parties. But the strength of appeals to the past is not a constant: historical experience has at some times and in some places been seen as irrelevant to practical action. Today, in the United States as well as in many other parts of the world, appeals to historical precedent carry considerable weight, and are made for many purposes. For example, the dissolution of Yugoslavia, has been explained as a result of centuries-old ethnic tensions, yet when Yugoslavia was created at the end of World War I, objections were countered with the anthropological judgment that the new nation's ethnic divisions were not really significant. Or consider the debate over the ownership of the bones of so-called "Kennewick Man,"

which pitted Native Americans against scientists over questions of identity and legal claims. Or, historical generalizations in biology over the value of Darwin's theory, resulting in political debates in local and school board elections and presidential contests. This course will discuss the uses of history in contemporary and past situations, drawing examples from the United States, Europe, the Middle East, and Africa.

SM 400. Undergraduate Seminar in Science Technology and Society. (B) Staff.

This is a capstone seminar for STSC majors, and a required seminar for any STSC junior who wishes to write a senior thesis for honors in the major. It is designed to provide the tools necessary to undertake original research by guiding students through the research and writing process. Students will produce either a polished proposal for a senior thesis project, or a completed research paper by the end of the term. Although each student will work on a different topic, the class will focus on general aspects of historical, and social scientific research and guide students

through a close reading of key texts in science and technology studies.

SM 410. Science Fiction. (M) Adams.

An exploration of the interface between science and literature, including: the role of genre, narrative form, metaphor, and style in science; the depiction of science and scientists in fiction; the role of popular culture in reflecting--and creating--the social meaning of science and technology; and the use of science fiction in teaching the history of science, technology and medicine. Themes will include utopias, robots, supermen, aliens, time travel, alternate histories, and future histories.

SM 413. (HSOC413) Perfect Bodies. (C) Linker.

SM 426. (PHIL426) Philosophy of Psychology. (M) Hatfield.

Is there a science of psychology distinct from physiology? If there is, what is its subject matter? What is the relationship between scientific psychology and traditional philosophical investigation of the mental? Examination of these questions is followed by analysis of some

concepts employed in cognitive psychology and cognitive science, particularly in the fields of perception and cognition.

SM 471. (HSOC471) Guns and Health. (A) Sorenson.

The purpose of this course is for students to gain an understanding of the role of guns in health, and population and prevention approaches to violence. The course will include a focus on policies and regulations related to firearms, the primary mechanism by which violence-related fatalities occur in the U.S. We will address the life span of a gun, from design and manufacture through to use. In addition, we will address key aspects of the social context in which firearms exist and within which firearm policy is made.

498. Honors Thesis. (A) Staff.

499. Undergraduate Independent Study. (C)

Available with all members of the department faculty subjects ranging from the history of anthropology to the sociology of institutions.

IMMUNOLOGY (MD) {IMUN}

506. (MICR506) Immune

Mechanisms. (A) Terri Laufer, M.D.
Prerequisite(s): Permission of instructor. 4 h. 1 c.u. Taught Monday, Wednesday, with review session on Friday.

This is an introductory graduate course which surveys most areas of immunology. It is assumed that students have a background in biochemistry and molecular biology, and at least some familiarity with immunological concepts.

Topics covered include the major histocompatibility complex, structure of antibodies and T cell receptors, antigen-antibody interactions, the generation of diversity of immunoglobulins and B cells, antigen presentation, and immunological tolerance.

There will be two exams, both of which will require assessment and interpretation of experimental data and/or readings from the primary literature.

507. Immunopathology. (A) Schreiber.
Prerequisite(s): MICR 100 or IMUN 506. 2 h.

The relationship between basic immunology and clinical immunologic diseases is emphasized. Course lecturers represent University faculty who are established investigators in immunological research and established clinical immunologists. Course topics include plasma protein systems; B cell, T cell, macrophage immunology; immunohematology; tumor immunology; benign and malignant, immunoproliferative disorders; neuro-immunology; pulmonary immunology; renal immunology; immune complex disease and immunoregulatory abnormalities.

508. Immune Responses. (B) Peter Felsburg, VMD., Ph.D. and Kate Sullivan, M.D., Ph.D. Prerequisite(s): IMUN 506 or equivalent and permission of instructor. Taught Monday, Wednesday & Friday, 9:00am-11:00am. 6 hours, 2 cu.

This course is designed to (1) extend the basic immunology principles addressed in 506, and (2) apply the fundamental principles of the mechanism of immune recognition and development presented in 506 to the immune response in health and disease in vivo. The course is designed as a series of minicourses which may change from year to year. Each minicourse will cover an important topic in immunology in detail. Students must take three minicourses over the Spring semester and must take at least one each from the basic

and applied immunology categories (see below).

The course will be taught as formal lectures on Monday and Wednesday and a diThe minicourses will be taught as a combination of formal lectures and seminar-format discussions of relevant literature. Each minicourse will have a slightly different format. The minicourses will consist of 6 hours/week for 4 weeks. The semester will be divided into 3 sessions with between 2 to 3 minicourses offered each session. Progress in the course will be evaluated by an exam/paper at the end of each minicourse and class participation. The exams will require students to incorporate the knowledge and thinking gained from the in depth analyses of these topics.

SM 520. Tutorials in Immunology. (A) Randy Cron, M.D., Ph.D. Prerequisite(s): A senior undergraduate, graduate or professional school course in Immunology.

This tutorial course is designed to provide students with an in-depth knowledge of a specific branch of Immunology. The tutorial can be used to enable students to become more deeply acquainted with the literature related to their thesis projects or to expand on a topic that the student found interesting in one of their basic courses. The course is currently the only immunology elective and is, therefore, required for all Immunology Graduate Group students. It is also open as an elective to BGS students who meet the prerequisite. The tutorial course will be examined by the program director and the tutorial leader and the grade will be based on a written paper on the subject studied (5 to 10 typewritten pages) and by an oral presentation of the paper (15 to 20 minutes).

599. Immunology Faculty Research Seminar. (C) Dr. David Artis; Dr. Jonathan Maltzman. Prerequisite(s): Permission of Graduate Group Chair.

Mandatory attendance at weekly research presentations by graduate group faculty.

605. Current Topics in Cellular and Molecular Immunology. (B) Philip Scott, Ph.D., and Laurence Turka, M.D. Prerequisite(s): IMUN 506 or permission of instructor.

Recent developments in basic cellular and molecular immunology are discussed by students using the current literature as a resource. This course reinforces and expands upon concepts presented in immunology 506. Students gain experience in critically evaluating current literature

and orally presenting and defending their ideas.

In the first part of the course, students present one or two papers relevant to a current topic in immunology. In the second part, the students each select a research topic and write and defend orally a small research proposal. Course aims are to provide more in-depth knowledge in specific and timely areas of immunologic research. In addition, the course encourages the development of oral presentation skills and the ability to critically evaluate published research and the ideas of one's peers.

SM 607. Grant Writing. (B) Drs. David Allman and Mike Madaio. Prerequisite(s): IMUN 506, 605, and/or permission of instructor.

This course will introduce the student to basic principles of grant writing. In this regard a primary objective of the course is to teach you how to describe your ideas and experimental objectives in a clear and concise manner within the standard NIH grant format. To accomplish this, you will be required to write an NIH, "RO1" type grant proposal based on your current laboratory project.

609. (CAMB609) Vaccines and Immune Therapeutics. (A) David Weiner, Ph.D., and Paul Offit, M.D. Prerequisite(s): The course is intended for graduate students or Medical Students in various MS, Ph.D. or MD/Ph.D. programs on the campus as well as local scientists and professionals in the community. As a prerequisite students should have taken biology, biochemistry or immunology courses at the advanced college level.

The goal of the Vaccines course is to expand on student's general understanding of the immune system and to focus this understanding towards the application of vaccination. Furthermore the course will give the student a sense of how these principles are applied to vaccine and immune therapeutic development. The course covers basic science as well as the Clinical, Ethical & Political implications of Modern Vaccines.

Initial lectures will review immune mechanisms believed to be responsible for vaccine induced protection from disease. Subsequent lectures build on this background to explore the science of vaccines for diverse pathogens, including agents of bioterrorism as well as vaccines for cancer. An appreciation for the application of laboratory science to the clinical development of vaccines is provided in the next section of the course along with lectures that focus on the ethical

implications of vaccines in different situations. The financial implications of specific vaccines and their impact on the global community, is a specific focus of the course.

The course is lecture style and will have a required reading list prepared in advance to provide the students background for the specific topic. Students will be graded by course participation as well as by a final written exam. The course is intended for graduate students or Medical Students in various MS, Ph.D. or MD/Ph.D. programs on the campus as well as local scientists and professionals in the community. As a prerequisite students

should have taken biology, biochemistry or immunology courses at the advanced college level. A final project will be graded from all students. The final project is to propose in a written report a vaccine strategy for a current pathogen of importance that does not as yet have an effective vaccine. Strategies used should build on the material presented in the class lectures. The details of the final paper will be further discussed in class.

699. Laboratory Rotation. (C) Various Immunology Group Faculty.
Prerequisite(s): Permission of instructor and immunology chair.

Laboratory research conducted under a faculty advisor. Three different rotations covering usually the fall semester of the first year through the fall semester of the second year are required of all Immunology Ph.D. students. Students will defend the rotation research in their Preliminary Exams.

799. Independent Study.

899. Predissertation Lab.

INTEGRATED PRODUCT DESIGN (EG) {IPD}

500. PRODUCT ENG BASICS.

L/L 501. Integrated Computer-Aided Design, Manufacturing and Analysis.

(B) Prerequisite(s): MEAM 101, MEAM 150, and MEAM 210, or graduate standing in the School of Engineering, Design, or Wharton with similar experience.

The majority of today's engineered products move through an advanced computer-aided workflow which greatly speeds design and process time. This course will explore the fundamental components of this workflow through a combination of lectures, hands-on exercises, and a semester design project. General course topics include: fundamental design principles, project definition and needfinding, advanced computer-aided design, rapid prototyping techniques, computer-controlled machining, and an in-depth exploration of the modern analysis and simulation tools that have revolutionized the way in which products are designed. Enrollment is limited.

503. (ARCH303) IPD FUNDAMENTALS.

504. (BE 514) Rehab Engineering and Design. (C) Prerequisite(s): Graduate students or permission of the instructor.

Students will learn about problems faced by disabled persons and medical rehabilitation specialists, and how engineering design can be used to solve and ameliorate those problems. The course combines lectures, multiple design projects and exercises, and field trips to clinical rehabilitation facilities. Students will have substantial interaction with clinical faculty, as well as with patients.

509. Needfinding. (B)

Needfinding is an approach that puts people and their needs at the center of product development and business strategy creation. Over 90% of new products introduced into the marketplace fail. A good portion of these failures are due to lack of understanding of end consumers and their needs. To develop truly successful new products, it's not enough just to ask people what they need or want. Designers and engineers need tools and techniques to get beyond what people can explicitly state and determine their implicit needs. Needfinding is an approach for developing deep insights that provide

strategic direction for corporations and open up new possibilities for product development. In this class students will gain a toolset from which to develop their own approaches to conducting researching for design: learning how to think about other people, about culture, and about new perspectives. They will also learn tactical skills: how to define research questions, how to conduct observations and interviews, how to interpret results, how to synthesize them into fodder for design, and how to communicate their findings in a way that is compelling and actionable for designers, marketers, and business strategists.

This class is designed for graduate students and upper level undergrads with a specific interest in product design or design thinking.

511. Creative Thinking and Design.

(A) It is recommended that undergraduates take MEAM 101 prior to this course.

This is a creative & iterative problem solving course that uses a series of mechanical design challenge projects to move students into the broad realm of unpredictable often incalculable time-constrained problem solving. It explores a wide variety of problem definition, exploration and solving "tools," and a variety of surrounding "design thinking" topics, such as ethics and the design of experience. Drawing and prototyping are used in the projects for ideation, iteration, speculation and communication.

514. (MEAM514) Design for Manufacturability. (B) Prerequisite(s): MEAM 101 or equivalent, MEAM 210 or equivalent, Senior or Graduate standing in the School of Design, Engineering, or Business with completed product development and/or design engineering core coursework or related experience.

This course is aimed at providing current and future product design/development engineers, manufacturing engineers, and product development managers with an applied understanding of Design for Manufacturability (DFM) concepts and methods. The course content includes materials from multiple disciplines including: engineering design, manufacturing, marketing, finance, project management, and quality systems.

515. (MEAM415, OIDD415) Product Design. (C)

This course provides tools and methods for creating new products. The course is intended for students with a strong career interest in new product development, entrepreneurship, and/or technology

development. The course follows an overall product methodology, including the identification of customer needs, generation of product concepts, prototyping, and design-for-manufacturing. Weekly student assignments are focused on the design of a new product and culminate in the creation of a prototype. The course is open to juniors and seniors in SEAS or Wharton.

L/L 516. (MEAM516) Advanced Mechatronic Reactive Systems. (B)

This course combines performance art and advanced mechatronics concepts that include the design and implementation of large-scale actuation, advanced sensing, actuation and control. This course pairs design school and engineering students to form interdisciplinary teams that together design and build electro-mechanical reactive spaces and scenic/architectural elements in the context of the performing arts. The two disciplinary groups will be treated separately and receive credit for different courses (ARCH746 will be taught concurrently and in some cases co-located) as they will be learning different things. Engineering students gain design sensibilities and advanced mechatronics in the form of networked embedded processing and protocols for large scale actuation and sensing. Design students learn elementary mechatronics and design reactive architectures and work with engineering students to build them. The class will culminate in a some artistic performance (typically with professional artists) such as a Shakespeare play, robotic ballet, a mechatronic opera.

517. (OIDD416) Des & Dev Web-Based Prod. (C)

519. (ESE 519) REAL TIME EMBEDDED SYS. (C)

SM 521. (ARCH721) DESIGNING SMART OBJECTS. (C)

525. Ergonomics/Human Factors Based Product Design. (C)

Human Factors and Ergonomics knowledge is a critical component of a product designer or design engineer's toolbox. This course teaches the direct application of existing human factors/ergonomic data to the creation of new product designs. Applying human factors knowledge to problem solving for product design happens throughout the design process. It is a useful input as initial ideas begin to ut and as a way to verify completed concepts through directly documented user testing and design iteration. The course would be a mini-lecture/studio style course in which the students will work in class on assigned

projects, finding, analyzing, extrapolating and applying data to design solutions and creating mockups, model and prototypes for user testing of their designs.

SM 526. (ARCH726) Contemporary Furniture Design. (B)

527. (ARCH727) Industrial Design I. (A)

This course provides an introduction to the ideas and techniques of Industrial Design, which operates between Engineering and Marketing as the design component of Integrated Product Development. The course is intended for students from engineering, design, or business with an interest in multi-disciplinary, needs-based product design methods. It will follow a workshop model, combining weekly lectures on design manufacturing, with a progressive set of design exercises.

SM 528. (ARCH728) Design of Contemporary Products. (B)

This course was designed to explore intersections of functionality and performance using an experimental platform to uncover opportunities within the built environment to create domestic products. Provides practical insights into the material manipulation and aesthetic experimentation that are essential for the design and fabrication of products. Lectures and case studies help students to learn from examples and develop their own designs. Through a series of exercises, students design and fabricate a prototype using actual materials. The course addresses problems unique to product design, such as scale, weight, cost and production.

530. (ARCH733) Building Product Workshop: Transwall. (C)

As Craig Vogel notes in *The Design of Things to Come*, "we are in a new economic age that is in need of a new renaissance in product development, on that leverages multiple minds working in concert." With this mindset, this interdisciplinary workshop guides students through the product design process from design brief to concept generation in one semester, working firsthand with Transwall, a leading manufacturer of demountable wall systems, to focus on a specific product need. The design opportunity looks for the next generation of pre-manufactured wall systems; getting away from field constructed walls and looking at critical issues of mass-produced wall systems; flexibility, mobility, structural stability, acoustics, transparency/opacity, and operability.

During the workshop, students will explore the context that creates the unique need for a new product and have an opportunity to conceptualize their design ideas through sketches, scale model studies and partial prototypes.

532. (ARCH632) Surface Effects. (B)

Several sections are offered from which students make a selection. This year's selections include: Space and Structure; Surface/Effects.

SM 544. (ARCH744) Digital Fabrication. (B)

A seminar and design workshop that explores associative and parametric CAD-CAM strategies, to enable an interactive continuity between conception and fabrication. Through parametric 3D constructions, students will explore how to link different aspects of the architectural projects, such as: (1) design intention; (2) control of variation and adaptation; (3) construction constraints; (4) digital fabrication processes. The course emphasizes the cross-fertilization of formal, technical and performative aspects of the design activity.

545. (EAS 545) Eng Entrepreneurship I. (C)

549. (EAS 449) Product Development in Entrepreneurial Ventures. (B)

Prerequisite(s): Seniors and Graduate students from the School of Design, Engineering or Business that have an interest in product design and/or integrated product development in an entrepreneurial environment.

A product is any artifact, service or experience for which a buyer is willing to pay. Product Design and Development is at the core of entrepreneurship. Though in the modern mythology it is a solitary effort by a passionate individual, entrepreneurship is frequently more successful when pursued in an interdisciplinary environment. Though it rarely requires the greatest time investment, concentration of personnel, the majority of the funding or even the greatest depth of expertise to accomplish, excellent product design can be the difference between a successful or failed venture. A poorly designed "product" can prevent a venture from being successful. An excellently designed product can make a competent business plan much more successful. A well defined and designed product solution will create differentiation, and cannot only meet customer expectation, but can create desirability. Through the review and discussion of case studies, lecture subjects, guest lecturers, field trips,

and a semester long interdisciplinary team project, this class will provide insight into the problem identification and product design processes, user needs research, intellectual property research, experience design, Industrial Design, Interface Design, brand development and product centric fundraising processes.

Specific knowledge areas to be explored: Product design processes, User needs research, Intellectual property research, Experience design, Industrial design, Interface design, Product Driven Financial development

551. Design Processes. (C)

This studio is structured for IPD students as an intensive, interdisciplinary exploration of Design as purposeful for Integrated Product Design. The goal of the studio is to give students a firsthand experience of various processes involved in creating successful integrated product designs. This first semester of the four-semester studio sequence focuses on giving students experience developing designs based on a range of starting points: form, function, materiality and manufacturing process. Students will practice design through rigorous, consistent processes for thinking through the evolution of their ideas. In this course, they will go through an entire design process from conceptualization to design to producing prototypes. They will be taught to focus on the specifics of their designs, causing them to be conscious of what drives their choices as designers and providing them with a wider range of tools to design from in successive projects. Course work will involve readings, assignments, class participation, in-class exercises, a mid-term presentation and a final submission.

552. Problem Framing. (B)

In the second semester of the four-semester studio sequence, we ask students to take a step back from what and how they are designing and ask the question of why they are designing it. We will teach them a rigorous process for understanding stakeholder needs and for translating those needs into implications for product design. They will begin to develop greater awareness of the personal, social, competitive and technological contexts that their products fit into, and to learn how to design for those contexts. They will develop the ability to dive into a topic and frame a design problem, and to understand the implications of how they frame the problem on what they design. Ideally, they will use this process to identify a problem or opportunity to work on for their final project. Course work will involve readings,

INTEGRATED PRODUCT DESIGN

assignments, class participation, in-class exercises, and a final submission.

SM 561. IPD Theories/Methods I.

SM 562. (ARCH562) IPD Theories/Methods II. (B)

568. (FNAR268, FNAR568) INTEGRATIVE DESIGN STUD. (C)

599. Master's Independent Study. (C)

SM 699. IPD Seminar. (C)

799. Studio Project Thesis. (C)

**INTERNATIONAL
RELATIONS
(AS) {INTR}****101. Transnational Issues in Global Politics. (C) Staff.**

Transnational Issues in Global Politics This course is designed to provide students with an introduction to transnational issues and world politics and to acquaint them with some of the leading issues, theories, concepts and processes that shape and define world events. It is expected that students taking the course will gain an ability to analyze, understand objectively evaluate and appreciate the complex dynamic that is "global politics." In order to better understand other nations, their leaders and their motivations, the readings and lectures in the first segment of this course will examine the traditional and contemporary approaches to studying world politics. Next, we will focus on the instruments of conflict and cooperation and the forces of integration and fragmentation in the world today. Finally, we will assess some of the major international issues of our time (i.e. climate change, proliferation of weapons of mass destruction, genocide and human trafficking) and debate the prospects for bringing peace and prosperity to a world that is rife with conflict and poverty. The overriding challenge in this introductory course is to consider

international relations from different perspectives and to be open and adaptive as you develop a deeper understanding of global issues and politics.

199. Independent Study. (C)**200. International Relations Theory & Practice.**

A survey of theoretical and conceptual approaches to the study of International Relations as they are employed by analysts and practitioners in the field.

250. Political Risk Analysis. (C) Frank Plantan.

This course teaches students to apply social science theories and concepts together with futures methodologies (e.g. Delphi method; country risk assessments used by ratings agencies) to the challenges of addressing international political risks to the continuity, effectiveness and operations of business, government and other organizations in their international transactions.

290. (ASAM122, HIST365, HIST412, SAST282, SAST292) Topics in International Relations. (C) Staff.**350. Research Methods/Practice in IR. (M)**

International Relations is concerned with both theory and practice so we employ a range of analytical tools to examine actors

and events in world politics. The purpose of this course is to introduce students to the various research methods utilized by students and scholars in the field of IR including: case studies, historical - comparative and archival research, survey research, interviewing techniques, simulations, quantitative and statistical analysis.

SM 390. Senior Seminar for Thesis Research. (A) Staff. Prerequisite(s): Intr 350. Senior Seminar for Thesis Research.

Seminar in International Relations. A two semester sequence including review of advanced International Relations theory and research methods for the preparation of the senior thesis.

SM 391. Senior Seminar For Thesis Research. (B) Staff. Prerequisite(s): INTR 390.

Seminar in international relations. Second semester of a two semester sequence including review of advanced international relations theory and research methods for the preparation of the senior thesis.

399. Independent Study for Thesis Research. (C)

JEWISH STUDIES PROGRAM (AS) {JWST}

Jewish Studies at Penn is an interdisciplinary program which draws upon the methodologies and expertise of a wide range of university departments, including Near Eastern Languages and Civilizations, Religious Studies, History, Anthropology, Political Science, English, Folklore, Sociology, Germanic Languages and Literatures, and the Law School. Please look for courses under listings for these departments.

SM 016. (GRMN022, MUSC018) FRESHMAN SEMINAR. (M)

031. (YDSH101, YDSH501) Beginning Yiddish. (A) Staff.

Yiddish is a 1000-year-old language with a rich cultural heritage. YDSH 101, the first in the Beginning Yiddish language series, introduces the student who has no previous knowledge of the language to the skills of reading, writing, and speaking Yiddish. Starting with the alphabet, students study grammar, enriched by cultural materials such as song, literature, folklore, and film, as well as the course's on-line Blackboard site, to acquire basic competency. By the end of the first semester, students will be able to engage in simple conversations in the present tense, know common greetings and expressions, and read simple texts, including literature, newspapers, songs, and letters. Students are encouraged to continue with YDSH 102/ JWST 032/ YDSH 501 in the Spring. Four semesters of Yiddish fulfill the Penn Language Requirement.

032. (YDSH102, YDSH502) Beginning Yiddish II. (B) Staff. Prerequisite(s):

JWST 031 or permission of the instructor. In this course, you can continue to develop basic reading, writing and speaking skills. Discover treasures of Yiddish culture: songs, literature, folklore, and films.

033. (YDSH103, YDSH503) Intermediate Yiddish I. (A) Hellerstein. Prerequisite(s):

GRMN 402 or equivalent. A continuation of JWST 032/ YDSH 102, Beginning Yiddish II, this course develops the skills of reading, writing, and speaking Yiddish on the intermediate level through the study of grammar and cultural materials, such as literature, newspapers, films, songs, radio programs.

034. (YDSH104, YDSH504) Intermediate Yiddish II. (B) Hellerstein. Prerequisite(s):

GRMN 403 or permission of the instructor. Continuation of JWST 033; emphases in reading texts and conversation.

051. (HEBR051, HEBR651) Elementary Modern Hebrew I. (F) Staff.

An introduction to the skills of reading, writing, and conversing in modern Hebrew. This course assumes no previous knowledge of Hebrew.

052. (HEBR052, HEBR652) Elementary Modern Hebrew II. (F) Staff. Prerequisite(s):

HEBR 051 or permission of instructor. A continuation of HEBR 051, First Year Modern Hebrew, which assumes basic skills of reading and speaking and the use of the present tense. Open to all students who have completed one semester of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

053. (HEBR053, HEBR653) Intermediate Modern Hebrew III. (C) Staff. Prerequisite(s):

HEBR 052 or permission of the instructor. Development of the skills of reading, writing, and conversing in modern Hebrew on an intermediate level. Open to all students who have completed two semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

054. (HEBR054, HEBR654) Intermediate Modern Hebrew II. (C) Staff. Prerequisite(s):

HEBR 053 or permission of instructor. This course constitutes the final semester of Intermediate Modern Hebrew. Hence, one of the main goals of the course is to prepare the students for the proficiency exam in Hebrew. Emphasis will be placed on grammar skills and ability to read literary texts. Open to all students who have completed three semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

059. (HEBR059, HEBR552) Advanced Modern Hebrew: Reading and Composition. (C) Engel. Prerequisite(s):

HEBR 054 or permission of instructor. After four semesters of language study, it's time to enter the vibrant world of contemporary Israeli culture. In this course students read some of the best plays, poems, short stories, and journalism

published in Israel today. They also watch and analyze some of Israel's most popular films, TV programs, and videos. Themes include Jewish-Arab relations, the founding of the State, family ties and intergenerational conflict, war and society, and the recent dynamic changes in Israel society. HEBR 054 or permission of instructor. Since the content of this course may change from year to year, students may take it more than once (but only once for credit).

SM 100. (ANTH129, NELC252, RELS129) Themes in Jewish Tradition. (M) History & Tradition Sector. All classes. Ben-Amos/Dohrmann/Fishman.

Course topics will vary; have included Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann); Performing Judaism (Fishman).

Fall 2016: Secret Knowledge: Esotericism in Jewish Culture

SM 103. (HIST101) The Messianic Impulse in Jewish History. (C) Ruderman.

L/R 122. (RELS002) Religions of the West. (C) History & Tradition Sector. All classes. Reed.

Introduction to Judaism, Christianity, and Islam, the three major traditions that originated in the Middle East. Attention to sacred scriptures, historical development, and modern expressions.

123. (NELC283, RELS123) Introduction to Judaism. (C) dohmann.

Focusing on the festivals of the Jewish calendar and on Jewish life-cycle events, this course examines primary sources from various periods and places that illuminate changes in Jewish practice, in Jewish understandings of ritual, and in ritual's place in Jewish life.

126. (NELC186, RELS126) Jewish Mysticism. (M) Staff.

Survey of major periods of development of mystical speculation and experience within Judaism. Mystical symbolism as a basis for theological interpretations of Torah, Immanentist theologies, mystical ethics. Types of experiences and practices which were cultivated by Jewish mystics in order to achieve intimate communion with the Divine and to facilitate a sacred transformation of themselves and the world. Includes "Riders of the Chariot", The Zohar (Book of Splendor), Lurianic Kabbalah, Hasidism.

130. (HIST150, JWST430, RELS124) American Jewish Experience. (A) Wenger.

This course offers a comprehensive survey of American Jewish history from the colonial period to the present. It will cover the different waves of Jewish immigration to the United States and examine the construction of Jewish political, cultural, and religious life in America. Topics will include: American Judaism, the Jewish labor movement, Jewish politics and popular culture, and the responses of American Jews to the Holocaust and the State of Israel.

136. (RELS136) Death and the Afterlife in Ancient Judaism and Christianity. (C) Reed.

This course surveys the development of concepts about death and the afterlife in Judaism and Christianity, exploring the cultural and socio-historical contexts of the formation of beliefs about heaven and hell, the end of the world, martyrdom, immortality, resurrection, and the problem of evil. Readings cover a broad range of ancient sources, including selections from the Hebrew Bible and New Testament, as well as other Jewish and Christian writings (e.g., "apocrypha," "pseudepigrapha," Dead Sea Scrolls, classical rabbinic literature, Church Fathers, "gnostic" and "magical" materials). In the process, this course introduces students to formative eras and ideas in the history of Judaism, Christianity, and Western culture.

SM 150. (NELC150, RELS125) Introduction to the Bible (The "Old Testament"). (A) Humanities & Social Science Sector. Class of 2010 & beyond. Tigay.

A survey of the major themes and ideas of the Bible, with special attention paid to the contributions of archaeology and modern Biblical scholarship, including Biblical criticism and the response to it in Judaism and Christianity.

SM 151. (COML057, NELC156, RELS027) Great Books of Judaism. (A) Arts & Letters Sector. All Classes. Staff.

The Babylonian Talmud (Bavli), a product reflecting the collaborative effort of generations of sages, is the foundational legal and ethical document of rabbinic Judaism. Both the methods of interpreting this text --and their theoretical frameworks-- have varied dramatically, evolving creatively throughout the generations. In the past century, theories of how to read the Talmud and hypotheses about its formation and redaction have opened up new avenues

for understanding what the text says and, more importantly, how it works. Through in-depth examination of demonstrative legal passages, this course will contrast the insights generated by the major critical schools of the past century and with the interpretations of selected medieval scholars, the Rishonim. English translations will be provided alongside the original texts. Previous study of Talmud is helpful.

SM 153. (COML257, NELC158, NELC458, RELS223) Jewish Literature in the Middle Ages in Translation. (C) Stern/Fishman.

This course is devoted to introducing and exploring the different genres and types of Jewish literature in the Middle Ages, including poetry, narrative, interpretation of the Bible, liturgy, historiography, philosophy, sermonic, mystical and pietistic writings. Specific topics will vary from semester to semester. Attention will be paid to the varieties of Jewish experience that these writings touch upon. All readings in translation.

154. (CIMS159, COML282, NELC159) Modern Hebrew Literature and Culture in Translation. (C) Arts & Letters Sector. All Classes. Gold. There will be five film screenings; the films will also be placed on reserve at the library for those students unable to attend. The content of this course changes from year to year, and therefore, students may take it for credit more than once.

Fall 2016: In the first decade of the new millennium, the so called "Second Generation", children of Holocaust survivors reached maturity. Only in their 40s and 50s they finally began confronting and reconstructing their parents' experiences, as well as their own nightmarish childhoods. These include striking narratives Our Holocaust by Amir Gutfreund and Corner People by Esty G. Hayim as well as films like Walk on Water. The third generation is also returning to the forbidden story with prize winning films like "The apartment." The quintessential Holocaust narrative The Diary of Anne Frank appeared in 1947, one year prior to the establishment of the Jewish State. Nevertheless, Israeli culture "waited" until the public trial of Adolf Eichmann in 1961 to hesitantly face the momentous catastrophe. The Zionist wish to forge a "New Jew" motivated this suppression, at least in part. Aharon Appelfeld's stories were the first Holocaust-related works to enter the modernist literary scene in the 1960s, followed by the cryptic verse of Dan Pagis, a fellow child survivor. It was not

until 1988 that this practice of concealing the past was broken, when two Israeli-born pop singers, children of survivors, released the watershed documentary "Because of That War."

This course will follow and analyze the transformation of Israeli literature and cinema from instruments of suppression into a means of processing this national trauma. While Israeli works constitute much of the course's material, European and American film and fiction play comparative roles.

156. (HIST139, NELC051, NELC451, RELS120) Jews and Judaism in Antiquity: History of Jewish Civilization I. (A) History & Tradition Sector. All classes. Dohrmann.

The course is an overview of Jewish history, culture, and society from its biblical settings through the Hellenistic-Roman, and rabbinic periods. We will trace the political, social, and intellectual-religious, and literary development of Judaism from its beginnings through the Second Temple period to the formation and evolution of Rabbinic Judaism. Topics to be covered include: the evolution of biblical thought and religious practice over time; Jewish writing and literary genres; varieties of Judaism; Judaism and Imperialism; the emergence of the rabbinic class and institutions.

157. (HIST140, NELC052, NELC452, RELS121) Medieval and Early Modern Jewry. (A) History & Tradition Sector. All classes. Ruderman.

Exploration of intellectual, social, and cultural developments in Jewish civilization from the rise of Islam in the seventh century to the assault on established conceptions of faith and religious authority in 17th century Europe, that is, from the age of Mohammed to that of Spinoza. Particular attention will be paid to the interaction of Jewish culture with those of Christianity and Islam.

L/R 158. (HIST141, NELC053, RELS122) Jews in the Modern World: History of Jewish Civilization III. (B) History & Tradition Sector. All classes. Wenger.

This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious

movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.

171. (HEBR151, HEBR451, JWST471) Elementary Biblical Hebrew I. (A) Carasik.

This course is an introduction to Biblical Hebrew. It assumes no prior knowledge, but students who can begin to acquire a reading knowledge of the Hebrew alphabet before class starts will find it extremely helpful. The course is the 1st of a 4-semester sequence whose purpose is to prepare students to take courses in Bible that demand a familiarity with the original language of the text.

173. (HEBR153, HEBR453, JWST473) Intermediate Biblical Hebrew I. (A) Carasik. Prerequisite(s): Successful completion of HEBR 152 or permission of the instructor.

This course will focus on using the grammar and vocabulary learned at the introductory level to be able to read Biblical texts independently and take advanced Bible exegesis courses. We will also work on getting comfortable with the standard dictionaries, concordances, and grammars used by scholars of the Bible. We will concentrate on prose this semester, closely reading Ruth, Jonah, and other prose selections. We will begin to translate from English into Biblical Hebrew, and there will also be a unit on the cantillation/punctuation marks used in the Bible. A suitable entry point for students who know modern Hebrew or have previously learned Biblical Hebrew in a less demanding framework.

199. Directed Readings. (C) Staff.

A tutorial under the direction of a member of the Jewish Studies Program faculty. Student and faculty member will create a reading list designed to achieve specific goals. The students will meet regularly with the faculty member and submit written assignments. Prior approval and sponsorship by a Jewish Studies Program faculty member is needed to take the course.

SM 201. (HIST201) Major Seminar in History: Europe Before 1800. (C) Staff.

SM 202. (HIST202, JWST502, RELS207) Major Seminar in History: Europe After 1800. (C) Staff.

SM 213. (COML205, NELC383, RELS203) The Religious Other. (M) Fishman.

Course explores attitudes toward monotheists of other faiths, and claims made about these "religious Others" in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Strategies of "othering" will be analyzed through an exploration of claims about the Other's body, habits and beliefs, as found in works of scripture, law, theology, polemics, art, literature and reportage. Attention will be paid to myths about the other, inter-group violence, converts, cases of cross-cultural influence, notions of toleration, and perceptions of Others in contemporary life. Primary sources will be provided in English.

SM 215. (HIST231) Re-Reading the Holocaust. Wenger.

This course explores how the Holocaust has been constructed as an historical event. Beginning in the mid-1940s, with the first attempts to narrate what had transpired during the Nazi era, this seminar traces the ways that the Holocaust became codified as a distinct episode in history. We will examine documentary films, memoirs, survivor testimonies, as well as other scholarly and popular representations of the Holocaust. Students will be introduced to unfamiliar sources and also asked to reconsider some well-known Holocaust documents and institutions.

SM 222. (RELS222) Topic Med Jewish Culture. (M)

SM 225. (NELC251, RELS225) Introduction to the Dead Sea Scrolls. (M) Staff.

Exploration of the issues relating to the identification and history of the people who produced and used these materials as well as the claims made about the inhabitants of the Qumran site near the caves in which the scrolls were discovered, with a focus on what can be known about the community depicted by some of the scrolls, its institutions and religious life, in relation to other known Jewish groups at that time (the beginning of the common era). This will involve detailed description and analysis of the writings found in the caves -- sectarian writings, "apocrypha" and "pseudepigrapha," biblical texts and interpretations.

SM 227. (PHIL255, RELS227) Modern Jewish Thought. (M) Staff.

Through a reading of such thinkers as Martin Buber, Gershom Scholem and Franz Rosenzweig, the course will address some

of the fundamental issues in modern Jewish thought and experience.

SM 233. (RELS231) JESUS AND JUDAISM. (M)

SM 236. (SOC1231) Topics in Israeli Culture. (M) Staff.

This course examines general themes and trends in Israeli history, culture, and society. The specific focus of this course will vary, depending on topic and instructor.

SM 241. (NELC280, RELS241) Topics in Judaism and Islam. (M) Staff.

244. (RELS244) Miracles to Mindfulness. Steve Weitzman, Phil Webster.

In 1902, the most famous philosopher in America, William James, revolutionized the study of religion by analyzing religion as an experience rather than as a set of doctrines or scriptures. In this course, we will pick up the inquiry that James and scholars such as Sigmund Freud began by exploring new approaches to the science and philosophy of religious experience. We will invite a series of experts from a wide range of fields: neuroscience, psychoanalysis, phenomenology, psychology, anthropology, to name only a few to present their cutting-edged research on the nature of religious experience. How can religious experience be studied? What does the research reveal about religious experience? And what can we learn from such experiences about the workings of the human mind and human society? The course has two components: 1) a discussion-centered mini-seminar from 3:30-5:00 will open consideration of the subject with help from relevant readings 2) a guest lecture series every Tuesday from 5:00-6:30, nary angles or in light featuring leading scholars who approach religious experience from different disciplinary angles or in light of different questions.

L/R 248. (PSCI251) ARAB ISRAELI RELATIONS. (C)

SM 249. (RELS259) ULTIMATE MEANINGS.

SM 255. (COML380, NELC250, NELC550, RELS224) The Bible in Translation. (C) Cranz. May be repeated for credit.

Careful textual study of a book of the Hebrew Bible ("Old Testament") as a literary and religious work in the light of modern scholarship, ancient Near Eastern documents, and comparative literature and religion. The book varies from year to

year. Fall 2016: Who is responsible for the recording of biblical battles and conquests? Can we confirm historical events depicted in the Hebrew Bible through archaeology or other sources? How do the existing biblical and non-biblical accounts match up and what can we learn from the differences? In this course, we will tackle these questions by studying selected passages in the Book of Kings and comparing the biblical historiographical account to ancient inscriptions and artifacts.

256. (COML228, HEBR250, RELS220) Studies in the Hebrew Bible. (C)

Tigay. Fluency in reading and translating Biblical Hebrew and prior study of the Bible in the original, at a high school or college level.

The aim of this course is to introduce students to the methods and resources used in the modern study of the Bible. To the extent possible, these methods will be illustrated as they apply to a single book of the Hebrew Bible that will serve as the main focus of the course.

The course is designed for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes a working knowledge of Biblical Hebrew grammar.

SM 257. (HEBR257, RELS226) Studies in Rabbinic Literature. (D)

Stern/Fishman.

Various topics.

SM 258. (FOLK258, HEBR258, NELC285, RELS228) Studies in Medieval Hebrew Literature. (A)

Stern/Fishman. Prerequisite(s): Reading knowledge of Hebrew.

This course will introduce students to the modern academic study of the different genres of medieval Jewish literature--poetry, narrative, interpretation of the Bible, liturgy, historiography, philosophy, sermon, mystical and pietistic writings. In addition to studying the primary texts, the course will also explore the historical, religious, and cultural contexts in which these texts were first produced and then studied, and the aspects of Jewish historical experience that these texts reflect. The specific topic of the course (eg. Medieval Biblical Interpretation, Kabbalah) will vary from semester to semester. In some cases, the specific topic may also be the work of a specific author, like Maimonides. Primary sources will be read in their original Hebrew. While no previous experience in studying these texts is required, students should be able to read unpointed Hebrew texts. If there is a question as to whether

the course is appropriate for you, please contact the professor.

SM 259. (COML266, HEBR259, HEBR559) Introduction to Modern Hebrew Literature: 1ST ISRAELIS:AMICHAH, OZ. (A)

Arts & Letters Sector. All Classes. Gold. Prerequisite(s): HEBR 059 or equivalent. The class will be conducted in Hebrew and the texts read in the original. There will be 3-4 short papers and a final exam.

Fall 2016: We will discuss literary works that reflect Israelis' struggle with their national identity. For the patriotic 1948 generation, self and country were one and the same while contemporary writers ask what it means to be Israeli. Yehuda Amichai's 1955 poem "I want to die in my bed" was a manifesto for individualism, yet the seemingly interminable Arab-Israeli conflict forced writers to return to the national, social, and political arenas starting in the 1980s, although in entirely different ways. Readings include works by the contemporary Orly Kastel Bloom, Etgar Keret and Sayed Kashua as well as by the early writers Natan Alterman, Amir Gilboa, Dahlia Ravikovitch, A.B. Yehoshua, and David Grossman. The class is conducted in Hebrew and all texts are read in the original. Seminar. Fulfills Arts & Letters. (HEBR 259, HEBR 559, COML 266, COLL 227)

260. (COML283, FOLK280, NELC258, RELS221) Jewish Folklore. (C)

Ben-Amos. The Jews are among the few nations and ethnic groups whose oral tradition occurs in literary and religious texts dating back more than two thousand years. This tradition changed and diversified over the years in terms of the migrations of Jews into different countries and the historical, social, and cultural changes that these countries underwent. The course attempts to capture the historical and ethnic diversity of Jewish folklore in a variety of oral literary forms.

SM 261. (CIMS279, COML265, COML277, GRMN261, GRMN263) Topics in Jewish-American Literature. (M)

Arts & Letters Sector. All Classes. Hellerstein. From the 1922 silent film "Hungry Hearts" through the first "talkie," "The Jazz Singer," produced in 1927, and beyond "Schindler's List," Jewish characters have confronted the problems of their Jewishness on the silver screen for a general American audience. Alongside this Hollywood tradition of Jewish film, Yiddish film blossomed from independent

producers between 1911 and 1939, and interpreted literary masterpieces, from Shakespeare's "King Lear" to Sholom Aleichem's "Teyve the Dairyman," primarily for an immigrant, urban Jewish audience. In this course, we will study a number of films and their literary sources (in fiction and drama), focusing on English language and Yiddish films within the framework of three dilemmas of interpretation: a) the different ways we "read" literature and film, b) the various ways that the media of fiction, drama, and film "translate" Jewish culture, and c) how these translations of Jewish culture affect and are affected by their implied audience.

SM 262. (CIMS261, ENGL261) Jewish Literature in Translation. (M)

Filreis. The course explores an aspect of 20th-century literature intensively; specific course topics will vary from year to year. Fall 2016 - REPRESENTATION OF THE HOLOCAUST IN LITERATURE AND FILM: This discussion-centered course is about the enormous difficulties faced by those who felt the urgent need to describe their own or others' experiences during the genocide of the European Jews, 1933-1945. We will explore the complex options they have faced as narrators, witnesses, allegorists, memoirists, scholars, teachers, writers and image-makers. Some linguistically (or visually) face the difficulty head on; most evade, avoid, repress, stutter or go silent, and agonize. One purpose of the course is for us to learn how to sympathize with the struggle of those in the latter group. This is not a history course, although the vicissitudes of historiography will be a frequent topic of conversation. Students will write frequent short papers, called position papers, due before class, in order to provide a basis for discussion. Students need not know anything about the Holocaust, although enrollees should consider historical reading over the summer.

SM 263. (ENGL255) Topics in Jewish Literature. Staff.

265. (EEUR265, GRMN265, GRMN565, HIST265, JWST465) Yiddish in Eastern Europe. (C)

Hellerstein. All readings and lectures in English.

This course presents the major trends in Yiddish literature and culture in Eastern Europe from the mid-19th century through World War II. Divided into four sections - "The Shtetl," "Religious vs. Secular Jews," "Language and Culture," and "Confronting Destruction" - this course will examine how Jews expressed the central aspects of their

experience in Eastern Europe through history, literature (fiction, poetry, drama, memoir), film, and song.

266. (ARTH260, ARTH660) Jewish Art. (M) Silver.

Jewish Art provides a survey of art made by and for Jews from antiquity to the present. It will begin with ancient synagogues and their decoration, followed by medieval manuscripts. After a discussion of early modern representation of Jews in Germany and Holland (esp. Rembrandt), it focuses most intently on the past two centuries in Europe, American, and finally Israel and on painting and sculpture as Jewish artists began to pursue artistic careers in the wider culture. No prerequisites or Jewish background assumed.

299. Independent Study. (C) Staff.

An independent study course culminating in a final written project. Prior approval and sponsorship by a member of the Jewish Studies Program faculty is needed to take the course.

SM 305. (ANCH305) Jewish Diaspora in the Roman Empire. Wilker.

Under the Roman Empire, Jewish communities developed and flourished especially in the cities of the Eastern Mediterranean, in Egypt, Syria, Asia Minor, Greece, Northern Africa, and Italy proper. In many of these cities, the Jews formed a considerable part of the population; they influenced the cultural, social, and political communal life and developed an identity that was distinctively different from that in Judea. In this seminar, we will trace Jewish life in the Diaspora under Roman rule. How did Jews and non-Jews interact? What was the legal status of Jewish communities under the Roman Empire? What caused conflicts and how were they solved? What can the history of Jewish Diaspora communities tell us about minorities in the Roman Empire in general? We will use literary texts, inscriptions, papyri, and archaeological material to answer these questions and many more.

SM 320. (JWST520, NELC454, RELS321, RELS520) Spirit and Law. (M) Fishman.

While accepting "the yoke of the commandments", Jewish thinkers from antiquity onward have perennially sought to make the teachings of revelation more meaningful in their own lives. Additional impetus for this quest has come from overtly polemical challenges to the law, such as those leveled by Paul, medieval

Aristotelians, Spinoza and Kant. This course explores both the critiques of Jewish Law, and Jewish reflections on the Law's meaning and purpose, by examining a range of primary sources within their intellectual and historical contexts. Texts (in English translation) include selections from Midrash, Talmud, medieval Jewish philosophy and biblical exegesis, kabbalah, Hasidic homilies, Jewish responses to the Enlightenment, and contemporary attempts to re-value and invent Jewish rituals.

SM 351. (HEBR350, HEBR550, RELS322) A Book of the Bible. (A)

Staff. Prerequisite(s): Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English. The course is designed primarily for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes fluency in reading Biblical Hebrew, including a working knowledge of Biblical Hebrew grammar.

In-depth textual study of a book of the Hebrew Bible studied in the light of modern scholarship (including archaeology and ancient Near Eastern literature) as well as ancient and medieval commentaries. The book varies each semester and the course may be repeated for credit.

352. (HEBR357, HEBR657, JWST552) Classical Midrash & Aggadah. (D)

Stern. Prerequisite(s): Students must be able to read an unpointed Hebrew text.

Readings in Rabbinic lore from classical Midrashic texts.

355. (HEBR358, HEBR658) Siddur and Piyut. (M) Stern. Prerequisite(s): AMES 052 or equivalent.

A study of the institution of Jewish prayer, its literature, and synagogue poetry. Texts will be read in Hebrew with supplementary English readings.

SM 356. (COML556, JWST555, NELC356, RELS418) Ancient Interpretation of the Bible. (M) Stern.

Christianity and Judaism are often called "Biblical religions" because they are believed to be founded upon the Bible. But the truth of the matter is that it was less the Bible itself than the particular ways in which the Bible was read and interpreted by Christians and Jews that shaped the development of these two religions and that also marked the difference between them. So, too, ancient Biblical interpretation -- Jewish and Christian-- laid the groundwork for and developed virtually all the

techniques and methods that have dominated literary criticism and hermeneutics (the science of interpretation) since then.

The purpose of this course is to study some of the more important ways in which the Bible was read and interpreted by Jews and Christians before the modern period, and particularly in the first six centuries in the common era. We will make a concerted effort to view these interpretive approaches not only historically but also through the lens of contemporary critical and hermeneutical theory in order to examine their contemporary relevance to literary interpretation and the use that some modern literary theorists (e.g. Bloom, Kermode, Derrida, Todorov) have made of these ancient exegetes and their methods. All readings are in English translation, and will include selections from Philo of Alexandria, the Dead Sea Scrolls, Rabbinic midrash, the New Testament and early Church Fathers, Gnostic writings, Origen, and Augustine. No previous familiarity with Biblical scholarship is required although some familiarity with the Bible itself would be helpful.

SM 357. (NELC355, RELS355) Topics in Biblical Studies. (M) Staff.

Topics vary. Please consult the Jewish Studies website for term specific detail. <http://ccat.sas.upenn.edu/jwst/courses.htm>

SM 359. (CIMS359, COLL227, COML359, HEBR359) Seminar Modern Hebrew Literature: LITERATURE & IDENTITY. (B)

Arts & Letters Sector. All Classes. Gold. Prerequisite(s): HEBR 059 or HEBR 259 or permission of the instructor. This class is conducted in Hebrew and the texts are read in the original. The syllabus serves solely as an outline. The amount of material we cover depends on the pace of the class. Additionally, the packet contains significantly more material than will be studied in class to compensate for the difficulty of obtaining Hebrew texts in America. The content of this course changes from year to year and therefore students may take it for credit more than once.

Modern Hebrew literature, an offspring of Zionism, has long rejected writing about one's personal life as embarrassing narcissism and self-exposure. However, many well-known Israeli artists have reached the age where they want to tell their true stories, and the younger generation has grown up during an individualistic period where it is acceptable to talk about open wounds and trauma. The Israeli scholar of autobiography Nitza Ben-

Dov sees this trend as a symptom of the culture of exposure in which we live (e.g. reality TV, Facebook, etc.). The genres examined in this course are fluid: memoirs; poetry, prose and even films that reveal or conceal the author's life story. Authors to be studied include: Yehuda Amichai, Dahlia Ravikovitch, Aharon Appelfeld, Amos Oz, and S.Y. Agnon. Filmmakers include: Shemi Zarhin, Dror Shaul, and Ari Folman.

L/R 380. (HIST380, RELS320) Modern Jewish Intellectual and Cultural History. (C) Ruderman.

An overview of Jewish intellectual and cultural history from the late 18th century until the present. The course considers the Jewish enlightenment Reform, Conservative and Neo-Orthodox Judaism, Zionist and Jewish Socialist thought, and Jewish thought in the 20th century, particularly in the context of the Holocaust. Readings of primary sources including Mendelsohn, Geige Hirsch, Herzl, Achad-ha-Am, Baeck, Buber, Kaplan, and others. No previous background is required.

SM 390. Senior Research Seminar. (B) Staff. Permit required.

JWST 390 is required of all students majoring in the Interdisciplinary Jewish Studies major, but all majors and minors in the various departmental programs are encouraged to take the seminar. Students will conduct independent research and complete a 20-30 page paper.

399. Senior Honors Thesis. (C) Staff.

Jewish Studies Honors majors must take JWST 399 in which they will design, with the guidance of an advisor, an individualized directed reading program culminating in the writing of an honors thesis.

SM 410. (ARTH410, HIST410, RELS438) TOPICS IN MEDIEVAL HIST. (C)

SM 419. (NELC489, RELS419) Jewish-Christian Relations Through the Ages. (M) Fishman.

This is a Bi-directional course which explores attitudes toward, and perceptions of, the religious "Other", in different periods of history. Themes include legislation regulating interactions with the Other, polemics, popular beliefs about the Other, divergent approaches to scriptural interpretation, and cross-cultural influences, witting and unwitting.

Different semesters may focus on Late Antiquity, the Middle Ages, Early Modern

period, or contemporary times. May be repeated for credit.

SM 426. (HEBR486, RELS426) Rabbinic Writers on Rabbinic Culture. (M) Fishman. Prerequisite(s): Reading knowledge of Hebrew.

The course traces reflections on rabbinic culture produced within Jewish legal literature of the classic rabbinic period - Midrash, Mishna and Talmud - and in later juridical genres - talmudic commentary, codes and responsa. Attention will be paid to the mechanics of different genres, the role played by the underlying proof-text, the inclusion or exclusion of variant opinions, the presence of non-legal information, the balance between precedent and innovation. Reading knowledge of Hebrew is required.

438. (YDSH108, YDSH508) Readings in Modern Yiddish Literature. (M) Hellerstein. Prerequisite(s): Reading knowledge of Yiddish.

This course will survey modern Yiddish literature through readings of Yiddish prose and poetry from the end of the 19th century through the late 20th century. The class will be conducted in both Yiddish and English. Reading knowledge of Yiddish is required, although some texts will be available in English translation.

SM 449. (HIST449) God and Nature: Readings on the Encounter between Jewish Thought and Science. Ruderman.

God and Nature examines the place of the natural world, medicine, and science in Jewish thought from antiquity to the modern era. It looks especially at a body of primary sources in Hebrew written during the age of the so-called "scientific revolution" and during its aftermath. The course is a seminar open to undergraduate and graduate students with a reading knowledge of classical Hebrew. Students without Hebrew with special interest in the subject might enroll with special permission from the instructor.

457. (ANEL575, ANEL576) Spring 2016: Forbidden Talmud: Magic Demons, and Sex. (A) Goldstone. Prerequisite(s): Prior experience studying the Babylonian Talmud in the original.

Course will examine several key legal passages (sugyot) in the Babylonian Talmud from both a traditional and an academic perspective. After identifying important tensions and inconsistencies in each text, we will consider the disparate solutions posed by the early medieval rabbis (Rishonim) and contemporary scholars, and compare their respective

approaches. Through these in-depth readings we will highlight how modern assumptions and goals for Talmud study differ from earlier generations and how contemporary approaches allow us to uncover new structures and meanings in the text. Attention will be paid to the comprehension of Aramaic lexical and grammatical forms. Open to students with prior experience studying the Babylonian Talmud in the original.

465. (EEUR265, GRMN265, GRMN565, HIST265, JWST265) Yiddish in Eastern Europe. (C)

Hellerstein. All readings and lectures in English.

This course presents the major trends in Yiddish literature and culture in Eastern Europe from the mid-19th century through World War II. Divided into four sections - "The Shtetl," "Religious vs. Secular Jews," "Language and Culture," and "Confronting Destruction" - this course will examine how Jews expressed the central aspects of their experience in Eastern Europe through history, literature (fiction, poetry, drama, memoir), film, and song.

471. (HEBR151, HEBR451, JWST171) Elementary Biblical Hebrew I. (A)

Carasik. Prerequisite(s): For the second semester: Completion of the first semester or permission of the instructor.

This course is an introduction to Biblical Hebrew. It assumes no prior knowledge, but students who can begin to acquire a reading knowledge of the Hebrew alphabet before class starts will find it extremely helpful. The course is the 1st of a 4-semester sequence whose purpose is to prepare students to take courses in Bible that demand a familiarity with the original language of the text.

473. (HEBR153, HEBR453, JWST173) Intermediate Biblical Hebrew I. (A)

Carasik. Prerequisite(s): Successful completion of HEBR 152 or permission of the instructor.

This course will focus on using the grammar and vocabulary learned at the introductory level to be able to read Biblical texts independently and take advanced Bible exegesis courses. We will also work on getting comfortable with the standard dictionaries, concordances, and grammars used by scholars of the Bible. We will concentrate on prose this semester, closely reading Ruth, Jonah, and other prose selections. We will begin to translate from English into Biblical Hebrew, and there will also be a unit on the cantillation/punctuation marks used in the Bible. A suitable entry point for students

who know modern Hebrew or have previously learned Biblical Hebrew in a less demanding framework.

SM 490. (GRMN581, HIST490, RELS429) Topics in Jewish History. (C) Staff.

Reading and discussion course on selected topics in Jewish history.

499. Independent Study. (C)

SM 509. (COML509, ENGL591, GRMN509, YDSH509) MODERNIST JEWISH POETRY.

SM 520. (JWST320, NELC454, RELS321, RELS520) Spirit and Law. (M) Fishman.

While accepting "the yoke of the commandments", Jewish thinkers from antiquity onward have perennially sought to make the teachings of revelation more meaningful in their own lives. Additional impetus for this quest has come from overtly polemical challenges to the law, such as those leveled by Paul, medieval Aristotelians, Spinoza and Kant. This course explores both the critiques of Jewish Law, and Jewish reflections on the Law's meaning and purpose, by examining a range of primary sources within their intellectual and historical contexts. Texts (in English translation) include selections from Midrash, Talmud, medieval Jewish philosophy and biblical exegesis, kabbalah, Hasidic homilies, Jewish responses to the Enlightenment, and contemporary attempts to re-value and invent Jewish rituals.

SM 523. (COML527, HEBR583, HIST523, RELS523) Studies in Medieval Jewish Culture. (A) Fishman.

Prerequisite(s): Unless otherwise noted, reading knowledge of Hebrew is required. Primary source readings from a broad array of medieval Jewish genres. Topic will vary from one semester to another, for example: custom, gender, dissent.

SM 533. (HIST533, RELS533) Ancient and Medieval Church History. Staff.

Topics vary.

SM 540. (COML539, ENGL588, GRMN540) Memory, Trauma, Culture. (M) Weissberg. All readings and lectures in English.

In recent years, studies of memory (both individual and cultural) have rivaled those of history, and have produced alternative narratives of events. At the same time, research has also focused on the rupture of narrative, the inability to find appropriate forms of telling, and the experience of a

loss of words. The notion of trauma (Greek for "wound") may stand for such a rupture. Many kinds of narratives, most prominently the recollections of Holocaust survivors, are instances in which memories are invoked not only to come to terms with traumatic events, but also to inscribe trauma in various ways. In this seminar, we will read theoretical work on memory and trauma, discuss their implication for the study of literature, art, and culture, read select examples from Holocaust survivors' autobiographies (i.e. Primo Levi, EliWiesel), and discuss visual art (i.e. Boltanski, Kiefer) and film (i.e. Resnais, Lanzmann, Spielberg).

552. (HEBR357, HEBR657, JWST352) Classical Midrash and Aggadah. (M)

Stern. Prerequisite(s): Students must be able to read an unpointed Hebrew text.

See description for JWST 352.

SM 553. (HEBR557, NELC557, RELS557) Seminar in Rabbinic Literature. (B) Stern. Prerequisite(s): Proficiency in Hebrew and/or Greek recommended. Undergraduates need permission to enroll. May be repeated for credit.

This seminar will investigate biblical and other precedents for the idea of the messiah and the messianic age, and their interpretation and extension into both ancient Judaism and ancient Christianity. To what degree are Second Temple Jewish and early Christian ideas about the messiah an extension of ancient Israelite concepts? To what degree might they reflect a response or reaction to Hellenistic and Roman imperial ideologies? How (and when) did beliefs surrounding Jesus depart meaningfully from Jewish ideas about the messiah? How do Rabbinic Jewish traditions about the messiah and messianic age differ from their Christian counterparts, and is there evidence of any "influence"? These questions will be explored with a focus on primary source readings.

SM 555. (COML556, JWST356, NELC356, NELC556, RELS418) Ancient Interpretation of the Bible. (M) Stern. May be repeated for credit.

See NELC 356 for description. Graduate option would require a lengthier research paper.

SM 556. Seminar Modern Hebrew Literature: LITERATURE & IDENTITY. (M) Gold. Prerequisite(s): HEBR 059 or HEBR 259 or permission of the instructor. This class is conducted in Hebrew and the texts are read in the original. The syllabus serves solely as an outline. The amount of material we cover depends on the pace of the class. Additionally, the packet contains significantly more material than will be studied in class to compensate for the difficulty of obtaining Hebrew texts in America. The content of this course changes from year to year and therefore students may take it for credit more than once.

This course is for students who are interested in taking a literature course in Hebrew and are proficient in it. Grading is based primarily on students' literary understanding. There will be four 2-page written assignments over the course of the semester. We will discuss literary works that reflect Israelis' struggle with their national identity, from the patriotic 1948 generation for whom self and country overlapped to contemporary writers who ask what it means to be Israeli. While Yehuda Amichai's 1955 poem "I want to die in my bed" was a manifesto for individualism, the seemingly interminable Arab-Israeli conflict returned writers to the national, social, and political arenas starting in the 1980's. Readings include poems by Natan Alterman, Amir Gilboa, Meir Wieseltier and Roni Somek as well as fiction by Amos Oz, David Grossman, Sayed Kashua, Alona Kimhi and Etgar Keret. Texts, discussions and papers in Hebrew. The content of This course changes from year to year so students may take it for credit more than once.

SM 560. (COML559, GRMN560, PHIL551) Topics in Philosophy and Literature. (M) Weissberg. Topics vary.

SM 582. (ARTH560, COML582, GRMN580, PHIL480) Topics in Aesthetics. Weissberg.

The course will study Arendt's political theory, as developed in *The Origins of Totalitarianism*, and her controversial book *Eichmann in Jerusalem*. It will also consider essays collected in *Men in Dark Times*. (Fall 2016 course)

SM 620. (GSWS620, HIST620, RELS621) Modern Jewish History. (A) Staff.

JWST 620 will be offered when the HIST 620 Colloquium subject matter is appropriate.

**SM 650. (HEBR556, RELS620)
Seminar in Biblical Studies. (A)** Staff.
Prerequisite(s): Facility in Biblical Hebrew.
In-depth study of a special topic or problem
in biblical studies.

**SM 655. (HEBR658) Siddur & Piyyut.
(M)** Stern.
A study of the institution of Jewish prayer,
its literature, and synagogue poetry. Texts
will be read in Hebrew with supplementary
English readings.

699. Independent Study. (C) Staff.

**SM 726. (ANTH726) Readings and
Research in Near Eastern
Archaeology. (M)** Staff. May be repeated
for credit.

Advanced seminar for students wishing to
pursue study of field data, methods,
theoretical problems in archaeology of
Near East.

**SM 735. (CLST735, RELS735)
Seminar in Judaism and/or
Christianity in the Hellenistic Era. (F)**
Kraft. Knowledge of Greek Presupposed.
Student may enter either term.

Selected topics from current research
interests relating to early Judaism and early
Christianity.

999. Independent Study. (C)

LANDSCAPE ARCHITECTURE & REGIONAL PLANNING (FA) {LARP}

Core Courses

501. Studio I. (A) Faculty.

The focus of this foundation studio is to explore ways of recording and representing landscape - with an emphasis on material, space, rhythm and measure - through a range of drawings and constructions. The studio attempts to create a sensibility toward landscape where the act of surveying a site is as much an imaginative endeavor as is the crafting of an artifact or the construction of a path in a landscape. Emphasis is placed on visual and manual skills in two-dimensional and three-dimensional constructions (drawing, fabrications, model-making, etc.), while developing ways to "see" landscape. The studio is structured around the themes of wetness/dryness and enclosure/disclosure, and works with one or more sites in the Philadelphia region. Recent sites have included Bartram's Gardens and East Fairmount Park in Philadelphia. In the past, the studio has focused on a territory around Martha's Furnace in the Pine Barrens, NJ; a part of the Meadowlands in northern NJ; an anthracite strip-mine in part of Pennsylvania's Appalachian Mountains; the Wissahickon Creek and, the Schuylkill River Trail in Philadelphia; and Great Falls in Paterson, NJ. Projects involve the making of pathways in these otherwise undesigned environments.

502. Studio II. (B) M'Closkey/Faculty.
Prerequisite(s): LARP 501: Studio I.

This foundation design studio explores the relationship among sites, drawings, models and the making of landscape architectural projects. The studio site is typically located on vacant or abandoned land in North Philadelphia along the Delaware River. Such sites are fairly large in size and present a complex set of issues, including fragmentation, lack of access, and contamination. Through the design of a park, students test and refine the relationship among project concept, modes of visualization, and project formation (organizational and material).

As a precursor to site work, students experiment with methods and materials for making organization and form in two and three dimensions. In the early part of the semester, we explore techniques of imaging that generate multiples (scenarios), serial progressions (transformations of a sort),

and iterations (transformations of another). Through various grafting techniques, we use the resultant drawings and models as analogous structures in order to imagine possible future organizations and uses for the site. These studies occur in conjunction with site interpretations ranging from photographs and sketches, to measured drawings and diagrams. The objective for the studio is to develop an informed and imaginative response to the site in order to create new relationships among the site, its immediate edges and the larger neighborhood or region.

511. Workshop I: Ecology and Built Landscapes. (A) Willig and Popowsky.

This workshop explores a sequence of sites extending from the Atlantic Ocean to the Appalachian Mountains that illustrates the changing geology and topography of the regional physiographic provinces including the Atlantic Coastal Plain, Piedmont, and Valley and Ridge. In moving westward along the transect, field trips to natural areas and constructed sites will highlight the diversity of regional plant communities ranging from primary dune to salt marsh, serpentine Virginia pine-oak forest to seepage wetland, and more. Analysis of the inter-connections between the underlying geology, topography, hydrology, soils, vegetation, wildlife, and human interventions will reveal patterns reflecting process and demonstrate key ecological and cultural systems and processes through the production of field notebooks as well as large-scale measured drawings. Ultimately students will develop a vocabulary (recognition, identification and nomenclature) of the materials of landscape, its substance, its ecology, and its changing nature owing to place and time.

NOTE: COURSE MEETS IN ASSIGNED CLASSROOM FROM 9-1PM. CLASS MEETING FROM 2-5PM IS DEDICATED TO FIELD WORK.

L/L 512. Workshop II: Landform and Planting Design. (B) Olgyay.

Prerequisite(s): LARP 511: Workshop I.
Corequisite(s): Summer Field Ecology Laboratory/Willig.

Workshop II combines two of the most elemental tools in the practice of landscape architecture: landform and planting design. Grading - the shaping and sculpting of the landform - is both art and science, and thus Workshop II aims to provide an appreciation of landform as an evocative component in the design vocabulary as well as a critical tool in solving difficult design problems. The basic techniques and strategies of grading design (slopes, terraces, water management, grade change

devices) will be introduced, practiced and reinforced, so that grading design becomes an integral part of the students' design approach. Lecture, field trips, modeling, in-class exercises, and group projects will be used.

The Planting component provides students with a working overview of the principles and processes of planting design. Plants will be considered both as individual elements and as part of larger dynamic systems. The natural distribution of plants, concepts of plant community and successional patterns, and the relationship of planting an topography will be used as the initial framework for planting design. Planting design typologies will be examined as an outgrowth of these "natural" patterns. The role of plants as a key element in the structural design of the landscape will be explored through a combination of modeling, plan and section drawing, temporal studies, writing, field trips and case studies. Emphasis will be placed on process and evolution: the temporality of planting (daily, seasonal and annual changes), establishment and maintenance of plantings, and the process of planting design. During the first week of May, a five-day field ecology course focuses on techniques of urban revitalization, sustainable land use, reclamation, and restoration. The field trips offer insight into the diversity of approaches to using plants to promote positive environmental change.

533. Media I: Drawing and Visualization. (A) Faculty.

Drawing is the ability to experience deeply things we see and envision. It allows us, not only to represent things or images seen, but, to discover and construct space and depth on the two dimensions of drawing surface. Expanding the tools of drawing, this course presents inquiries into applied media providing a basis for envisioning the speculative and developing an economy of expression. Work will be closely related to work in Studio I. Students will be introduced to the formal syntax of drawing (line, contour, structure, texture, chiaroscuro), graphic grammar (orthographic, oblique, perspective projection drawings and free-hand sketching) alongside exercises in material expression (collage, assemblage).

535. (LARP780) Theory I: The Culture of Nature. (A) Weller.

Landscape architecture, architecture and visual art are all mediations between nature and culture. This course is designed to help students form their own view regarding our relationship with the "natural" world

around us in an age of ecological crisis. To achieve this, the course provides a stimulating historical and contemporary survey of ideas of nature. We explore ways "nature" has been understood mythically, theologically, ideologically, philosophically, scientifically, and artistically through the ages, with an emphasis on contemporary culture. We survey the way in which the polarity of culture and nature has been historically constructed and more recently, deconstructed. The pedagogical philosophy of this course is that an appreciation of the broad pattern of history and the ideas that have shaped it are foundational to living a critical and ethical life and central to the process of making contemporary art, architecture, and landscape architecture.

540. Theory II: History of Ideas and Forms in Landscape Architecture.

(B) Fabiani Giannetto.

This course unfolds several contemporary issues that shape the profession, such as giving form to environmental values, balancing science and art, ecology and design, reconsidering the need for the beautiful vis-a-vis the many sites challenged by pollution and abuse. Among the topics of discussion, this course will also take into account how recent phenomena such as the late twentieth-century increase in world population, sprawl, and environmental pollution, and how these have changed the reality described by the very word "nature" and have contributed to expand the domain of landscape architecture. The discussion of topics will integrate contemporary ideas and their roots in earlier theoretical formulation. The past will be presented as a way to illuminate, receive, and critique the present. Course objectives are to become familiar with the social and cultural processes that inform the landscape architectural discourse and to be able to discuss in an informed manner the impact of the latter upon design trends; to be able to trace the roots of contemporary ideas in earlier theoretical formulations; and to be able to think critically and to enhance synthesis and augmentation skills.

542. Media II: Digital Visualization.

(B) VanDerSys. Prerequisite(s): LARP 533: Media I.

Continuing the sequence of the Landscape Architecture media classes, this course will provide students with the techniques to explore and examine precision surface profiles and land forming strategies, in both physical and digital models. These models provide a basis to speculate on what

processes and programs might be engendered or instigated.

Rhino will be the primary modeling platform. Associated plug-ins of Grasshopper, Rhino Terrain, Sonic, and Bongo will help extend the toolset. GIS will facilitate the collection and analysis of extent data. The Adobe Creative Cloud will also be used for documenting and expressing modeling processes through static and time-based visualizations.

543. Media III: Flows: Linear / Non-Linear. (A) VanDerSys/Faculty.

Prerequisite(s): Students in the 3-yr MLA program must complete LARP 533: Media I and LARP 542 Media II prior to beginning LARP 543: Media III.

This course is the third in the media sequence and is required of all MLA students at the 600 level. This course engages the generative potential of the dynamic and temporal attributes of the landscape medium. Time-based visualizations are used to investigate landscape organizations shaped through the dynamic interplay of varying processes and their spatial consequences. Emphasis will parallel the LARP 601 on urban ecology and landscape systems.

544. Media IV: Futures: Trends and Trajectories. (B) Freese. Prerequisite(s):

Students in the 3-yr MLA program must complete LARP 533: Media I, LARP 542 Media II and LARP 543: Media III prior to beginning LARP 544: Media IV.

This course is the fourth in the media sequence and is required of all MLA students at the 600 level. This course exposes students to parametric tools as mechanisms for analyzing and generating both predictable and emergent terrain dependent urban morphologies. Rather than inert lines of shapes, space infrastructure are visualized as products of force and flow. Emphasis will parallel the LARP 602 studio on forms of urbanization. This course is open to Landscape Architecture students only. Students outside of Landscape Architecture will need instructor permission to enroll in this course.

601. Studio III. (A) Faculty.

Prerequisite(s): Students in the 3-yr MLA program must complete LARP 501: Studio I and LARP 502: Studio II prior to beginning LARP 601: Studio III.

This studio brings together both two-year and three-year MLA students for a landscape studio problem that works at a regional scale, as well as multiple design scales. LARP 601 - the Green Stimuli studio - emphasizes rigorous site analysis,

the strategic organization of living material, and the potential of design to produce a wide range of effects. Studio problems are "live" - local leaders and experts are actively trying to solve them, there is an audience for student work outside the University, and projects have the potential to stimulate debate and new directions.

The Green Stimuli studio takes on design problems where soil, terrain, geology, mineral resources, climate, water, plants, wildlife, and living systems interactions are major drivers. Studio projects explore one or more of these dimensions in depth to reach high levels of design exploration, strategic thinking, technical resolution and physical expression. The studio's topics intersect with a broader universe of practical concerns, including land use, local and regional economies, real estate development and public policy, as well as philosophical and artistic questions about nature and ecology. The intent is that designed Green Stimuli make new connections between the material of landscape and the economic, infrastructural, scientific, social, cultural and creative attributes of a region.

602. Studio IV. (B) Marcinkoski/Faculty.

Prerequisite(s): Students in the 3-yr MLA program must complete LARP 501: Studio I, LARP 502: Studio II and LARP 601: Studio III prior to beginning LARP 602: Studio IV.

This studio is the fourth and final studio in the core sequence and is designed to introduce students to essential competencies related to contemporary problems in urban design. The studio operates in what have been referred to as "global cities" - contexts in which there are significant pressures on the physical form of a metropolis from substantial population and economic growth (both ongoing and projected). These pressures induce considerable demands for the development of new contexts. The studio is focused on managing and negotiating these pressures through landscape-driven strategies capable of guiding and organizing this urbanization. Students develop individual design strategies through a process of mapping, modeling, scenario building and fieldwork that lead to both conceptual and physical proposals for the development of new urban districts and metropolitan agendas.

611. Workshop III: Site Engineering and Water Management. (A) Faculty.

Prerequisite(s): Students in the 3-yr MLA program must complete LARP 511: Workshop I and LARP 512: Workshop II prior to beginning LARP 611: Workshop III.

Building upon the skills and concepts developed in Workshops I and II, this intermediate workshop focuses on technical aspects of site design, with an emphasis on landscape performance. Functional considerations related to landscapes and their associated systems - including circulation, drainage and stormwater management, site stabilization and remediation - will be explored as vital and integral components of landscape design, from concept to execution. Lectures, case studies, field trips, and focused design exercises will enable students to develop facility in the tools, processes and metrics by which landscape systems are designed, evaluated, built and maintained. In concert with the concurrent design studio, students will consider the means by which functional parameters can give rise to the conceptual, formal, and material characteristics of designed landscapes.

612. Workshop IV: Advanced Landscape Construction. (A) Burrell.

Prerequisite(s): LARP 611: Workshop III.

Advanced Landscape Construction: The Art and Craft of Design Documentation and Detailing introduces students to the process of landscape documentation as means of strengthening design intent through careful material selection and articulation of form. The course builds upon Workshop III by expanding the concept of site systems to the full range of drawings, details, specifications, and contracts used by landscape designers in the creation of the man-made environment. The course features lectures, case studies and field walks, exploring documentation from initial concept through construction administration. Topics will include materials and their use in exterior environments, documentation phases and their role in a projects evolution and the art of detailing to ensure beautiful, durable landscapes that define cohesive design.

701. (ARCH701) Studio V. (A) Faculty.

These advanced elective studios provide opportunities for focused exploration of particular themes in contemporary landscape architecture. Important emerging and accomplished designers, often from divergent points-of-view, interests and backgrounds, are invited to run these studios. Collaborative options (between Landscape and the Departments

of Architecture or City Planning) are sometimes offered across the School. In addition to our own faculty who offer some of these studios (Fabiani Giannetto, Gouverneur, Marcinkoski, Mathur, M'Closkey, Neises, Olin, Pevzner, Sanders, Tomlin), visitors have included Paolo Burgi (Switzerland), Peter Latz (Munich), Bernard Lassus (Paris), Margie Ruddick (Philadelphia), Chris Reed (Boston), Peter Beard (London), Nicholas Quennell (New York), Ken Smith (New York), Raymond Gastil (New York), Alessandro Tagliolini (Italy), Ignacio Bunster (Philadelphia), Perry Kulper (Los Angeles), James Wines (New York), Lee Weintraub (New York), Charles Waldheim (Chicago), Stanislaus Fung (Australia), Dennis Wedlick (New York), Sandro Marpillero (New York), Peter Connolly (Australia), and former associate professor Anita Berrizbeitia.

More recent visitors have been Claire Fellman (New York), Catherine Mosbach (Paris), Nanako Umemoto/Neil Cook (New York), Valerio Morabito (Italy), Carol and Colin Franklin (Philadelphia), Keith Kaseman (Philadelphia), Silvia Benedito (New York), Claudia Taborda (Lisbon), Mark Thomann (New York), Jerry Van Eyck (New York), and Martin Rein-Cano (Berlin).

702. Studio VI. (B) Faculty.

These advanced elective studios provide opportunities for focused exploration of particular themes in contemporary landscape architecture. Important emerging and accomplished designers, often from divergent points-of-view, interests and backgrounds, are invited to run these studios. Collaborative options (between Landscape and the Departments of Architecture or City Planning) are sometimes offered across the School. In addition to our own faculty who offer some of these studios (Fabiani Giannetto, Gouverneur, Marcinkoski, Mathur, M'Closkey, Neises, Olin, Pevzner, Sanders, Tomlin), visitors have included Paolo Burgi (Switzerland), Peter Latz (Munich), Bernard Lassus (Paris), Margie Ruddick (Philadelphia), Chris Reed (Boston), Peter Beard (London), Nicholas Quennell (New York), Ken Smith (New York), Raymond Gastil (New York), Alessandro Tagliolini (Italy), Ignacio Bunster (Philadelphia), Perry Kulper (Los Angeles), James Wines (New York), Lee Weintraub (New York), Charles Waldheim (Chicago), Stanislaus Fung (Australia), Dennis Wedlick (New York), Sandro Marpillero (New York), Peter Connolly (Australia), and former associate professor Anita Berrizbeitia.

More recent visitors have been Claire Fellman (New York), Catherine Mosbach

(Paris), Nanako Umemoto/Neil Cook (New York), Valerio Morabito (Italy), Carol and Colin Franklin (Philadelphia), Keith Kaseman (Philadelphia), Silvia Benedito (New York), Claudia Taborda (Lisbon), Mark Thomann (New York), Jerry Van Eyck (New York), and Martin Rein-Cano (Berlin).

761. Urban Ecology. (A)

Carlisle/Pevzner.

This course introduces students to the core concepts, processes, and vocabulary of contemporary urban ecology. It aims to provide a conceptual framework and grounding in an understanding of ecological processes, in order to empower students to develop and critique the function and performance of landscape interventions. Urban ecology describes the interaction of the built and natural environment, looking at both ecology in the city, as well as ecology of the city. Lectures, case studies, critical reading and design exercises will enable students to increase their ability to analyze and interpret ecological systems and processes. By analyzing the application of ecological concepts in the design management of urban landscapes, urban ecology will be explored as a dynamic, human-influenced system. Registration is limited to MLA students in the LARP 601 studio.

781. (CPLN673) Case Studies in Contemporary Urbanism, Landscape Arch, and Design. (B) Gouverneur.

This course will expose students to a wide array of case studies in planning, urban design, and landscape architecture including notions of sustainable development, the interplay between open space and built form, the rehabilitation of existing areas as historic districts, commercial corridors, and the improvement of squatter settlements. Also, it will focus on city expansions and new towns, housing, mix-use developments, and areas of new centrality. The program will also address territorial planning, the improvement of open space systems, and site specific interventions of parks, plazas, streetscape and gardens. Cases will provide the proper ground for analysis and interpretation of issues related to the design and implementation of "good" landscape and urban form. Class discussions will be complemented with short design exercises. We will also enjoy the presence of outstanding visiting lecturers who will share with us cutting-edge information, derived from their professional practice and research. Registration is limited to MLA students in the LARP 602 studio and to students in the Urban Design Certificate

program . This course is cross-listed with CPLN 673.

Elective Courses

660. (CPLN660) Fundamentals of Urban Design. (A) AI.

This course is a requirement for students enrolled in Certificate in Urban Design and for Master of City Planning students enrolled in the Urban Design concentration. How should urban designers give shape to the city? What urban design methods could they apply? This course helps students acquire the principles that can inform urban design practice. It has three major pedagogical objectives. First, it helps students understand the contemporary city through a series urban design tools. Second, it covers both historical and modern urban design principles. Finally, it includes all the scales in which urban designers operate, ranging from the fundamentals of social interaction in public space, to the sustainability of the region." This course is open to other interested PennDesign students if there is space and with permission of the instructor.

704. Urban Design Research Studio. (B) Gouverneur/AI.

This course is a requirement for students enrolled in the Certificate of Urban Design. The Urban Design Research Studio (UDRC) is a capstone educational experience open to students of architecture, planning, landscape architecture and historic preservation in PennDesign. The studio's focus is how design intelligence can be applied to complex urban problems which are at once systemic and spatial. Reaching across scales and across disciplines the studio immerses students in the social, economic, political, ecological and aesthetic complexity of the contemporary city in a way that interweaves the speculative quality of the design process with the analytical and evidence-based empiricism of urban research. Interdisciplinary collaboration is the studio's modus operandi and its purpose is to develop techniques and strategies by which contemporary cities can become not only metabolically more efficient but also more edifying of the human spirit in the 21st century. Acceptance into the studio is based on interview and portfolio with priority placements given to students enrolled in the Urban Design Certificate Program.

710. Implementation of Urban Design. (B)

This course is a requirement for students enrolled in the Certificate of Urban Design.

With a focus on contemporary major cities this subject charts the various ways in which urban design is typically conceived, procured, administered and ultimately delivered. From the very conception of a project to its completion, the various methods and avenues through which contemporary cities are planned, designed, and constructed are examined from multiple perspectives so that students become familiar with the myriad issues and main actors involved in urban development. Though exemplary case studies the subject offers a comprehensive understanding of the complexities and contingencies of contemporary city making, placing a particular emphasis on the role of the urban designer as a practical, ethical and visionary agent of change. This course may open to other interested PennDesign students if there is space and with permission of the instructor.

720. Topics in Representation. (C) Faculty. Prerequisite(s): LARP501, LARP533, LARP601, ARCH501, ARCH532 OR ARCH601.

In these advanced representation courses the work extends to new ways of documenting and seeing landscape. These courses are open to all interested School of Design students who have previous drawing experience or have taken foundation studios. Recent topics have been: Traces and Inscriptions (spring 2013), instructors: Anuradha Mathur, Matthew Neff; Landscape Representation (fall annually),instructors: Valerio Morabito; Landscape Drawing (spring annually), instructor: Laurie Olin; Landscape Drawing (spring 2008), instructors: David Gouverneur, Trevor Lee; Shifting Landscapes: A Workshop in Representation (spring 2005, 2004), instructor: Anuradha Mathur; and The Agile Pencil and Its Constructs (spring 2004) instructor: Mei Wu.

730. Topics in Professional Practice. (C) Sanders. Fall 2016: course offering is limited to LARP majors or by permission of the instructor.

These seminar courses explore ideas and methods in current landscape architectural practice. They include instruction in professional procedures, office management, project development, contracts, and collaborative ventures. They include visits to construction sites, professional offices and archives. Recent topics have been: Transformational Leadership (fall 2015), instructor: Lucinda Sanders, Office Practice (spring 2003-2015) instructor: Lucinda Sanders.

740. Topics in Digital Media. (C) Faculty. Prerequisite(s): LARP-543, MEDIA III.

These courses offer advanced instruction in the uses and applications of various digital media, including Geographical Information Systems, 3-D modeling, video, animation, and web-design. These courses are open to all interested School of Design students who already have a working knowledge of basic digital graphic techniques and with permission of the instructor. Recent topics have been: Simulated Natures (fall 2015, 2014), instructors Keith VanDerSys, Joshua Freese; Digital Fabrication (spring 2009-2013), instructor Keith VanDerSys; Non-Static Representation: Video, Animation, and Interactive Media (fall 2013, 2012), instructor: Todd Montgomery; Interoperable Terrains (fall 2008-2013), instructor: Keith Kaseman; Kino-Eye: Intro to Spatial Filmmaking (fall 2011, 2010), instructor: Richie Gelles; Geometry Clouds, Fluid Landscapes (fall 2002-2006), instructor: David Ruy; Tactical Surfaces / Topographic Modeling (fall 2002), instructor: Charles McGloughlin.

741. (CPLN632) Modeling Geographic Space. (B) Tomlin.

This course explores the nature and use of raster-oriented (i.e. image-based) Geographic Information Systems (GIS) for the analysis and synthesis of spatial patterns and processes. Previous experience in GIS is not required.

SM 743. (CPLN670) Geospatial Software Design. (A) Tomlin.

The purpose of this course is to equip students with a selected set of advanced tools and techniques for the development and customization of geospatial data-processing capabilities. It is open to any student with experience equivalent to that of an entry-level class on GIS.

SM 745. (CPLN680) Advanced Topics in GIS. (B) Tomlin.

This course offers students an opportunity to work closely with faculty, staff, local practitioners, and each other in conducting independent projects that involve the development and/or application of Geographic Information System (GIS) technology. The course is open to all students who can demonstrate sufficient experience, expertise, or initiative to pursue a successful term project.

750. Topics in Construction, Horticulture and Planting Design. (C) Faculty.

These courses explore relevant topics in construction, horticulture and planting

design as they relate to contemporary landscape architecture. The aim is to supplement fundamental skills and ideas explored in the core curriculum workshops with more advanced, cutting-edge research, technology and case studies. The teaching faculty are leading practitioners and researchers in the field. These courses are open to all interested School of Design students.

Recent topics have been: Urban Horticulture and Planting Design (fall annually since 2009), instructor: David Ostrich; Detailing New Urban Landscapes (spring 2012, 2011), instructor: Tom Ryan; Building New Urban Landscapes, Construction, and Planting Design (fall 2009, 2008), instructor: Tom Ryan; Urban Horticulture: Designing and Managing Landscape Plantings in Stressful Environments (1998-2003), instructor: Paul Meyer; Advanced Planting Design, instructors: Rodney Robinson (2003-2009), Dennis McGlade (fall 2006), Sheila Brady; and Sustainable Large Scale Planting of Trees, Shrubs, Perennials and Grasses (fall 2001), instructor: Wolfgang Oehme.

755. Arboretum Management I: Understanding Plants. (A) Skema.

In this course, students will learn about plants from an organismal perspective, an applied/practical perspective, an aesthetic perspective, an environmental perspective, and an evolutionary perspective. Utilizing the plant collection of the Morris Arboretum as a living laboratory and the expertise of arboretum staff, this course will bring students, novices and experts alike, to a better understanding of plants. Session topics integrate both theoretical and hands-on practical work. Course assessment will be based on weekly practical assignments and two exams.

Please note that this course takes place at the Morris Arboretum in the Chestnut Hill section of Philadelphia and students are responsible for transporting themselves to and from the arboretum on their own for class each week. For further information about the course, students may contact Cynthia Skema (cskema@upenn.edu).

756. Arboretum Management II: Evaluating Public Gardens. (B) Skema.

This interdisciplinary course looks at public gardens as a whole, studying these public institutions and their performance in the four major services they undertake: research, horticultural display, conservation and education/outreach. Students, of any level or discipline, begin the course by learning what arboreta and botanic gardens are, how they function, and what role they

fill in our society through a series of lecture sessions at the Morris Arboretum. For the remainder of the semester, the students take that knowledge into the field to apply what they have learned and evaluate some of the many public gardens in "America's Garden Capital," the Philadelphia region, with expert instructors from the Morris Arboretum as guides. Course assessment will be based on one exam, and a series of essays pertaining to their garden evaluations. Garden evaluations and the written work can be tailored to a particular subject of interest to a student, if pertinent within the public garden realm.

Please note that this course takes place at the Morris Arboretum in the Chestnut Hill section of Philadelphia and students are responsible for transporting themselves to and from the arboretum on their own or to other Philadelphia area public gardens as required for class each week. For further information about the course, students may contact Cynthia Skema (cskema@upenn.edu).

760. Topics in Ecological Design. (C) Faculty.

These elective courses explore relevant topics in ecological design and new technologies as they relate to contemporary landscape architecture. The courses explore topics such as ecology, sustainability, habitat restoration, hydrology, green roof and green architecture technology, soil technology, and other techniques pertinent to the construction of ecologically dynamic, functioning landscapes. The teaching faculty are leading practitioners and researchers in the field. These courses are open to all interested PennDesign students.

Recent topics have been: Large-Scale Land Reclamation Projects (annually since 2005), instructor: William Young; Green Roof Systems (spring 2010-2014), instructor: Susan Weiler; Restoration Ecology (fall biennially since 2004), instructor: David Robertson; Sustainable Development: The Queen Elizabeth Olympic Park, London (fall 2012), instructor: John Hopkins; Ecological Economics and Infrastructure (spring 2012), instructor: John Hopkins; Contemporary Issues in Sustainability: The London 2012 Olympic Park and Other European Examples (fall 2011), instructor: John Hopkins; James Ludwig (spring 2004); Sustainable Landscape Design for Watershed Protection (fall 2008, 2006, 2005, 2004, 2003, 2002), instructor: Katrin Scholz-Barth; and Ecological Restoration in the Urban Context (spring 2002, 2001), instructor: Deborah Marton.

SM 770. (ARTH782, COML615, ENGL584, GRMN614, URBS614) Topics in Landscape Architecture History and Theory. (C) Faculty.

These advanced seminars explore central issues in the history and theory of landscape architecture from the Renaissance to the present day. The focus is upon the cultural context of built works, their relation to conceptual writings (contemporary with the designs as well as modern) and the dialogue between modern professional practice and historical example and method.

Recent topics taught by Professor Hunt have been: Place & Peacefulness (fall 2012); Texts & Topics (fall 2011); The Role of History in Contemporary Landscape Architecture (fall 2010); Understanding Venice Research Seminar (spring 2009); Sculpture Parks and Sculpture in Parks (fall 2008); Six Landscape Architects & What We Say About Them (spring 2007); Open Spaces & Open Places: The Design and Use of American Landscapes (spring 2006), co-taught with Emily Cooperman; Reception, or the After Life of Landscapes (Spring 2005), Land Art and Ian Hamilton Finlay (fall 2004), Lawrence Halprin: Theory, Practice, Context & the Archival record (spring 2004) co-taught with Emily Cooperman; French Landscape Architecture: Case Studies (spring 2003); Picturesque as Modernism (spring 2002).

Recent topics taught by Professor Fabiani Giannetto have been: Landscape Theory and Criticism: Six Case Studies (spring 2013); Villa Gardens and Villa Life: Cultural and Social Transformations (spring 2012); and American Landscape Architecture & Its Sources (spring 2011).

Recent topics taught by Professor Aaron Wunsch have been: Therapeutic Landscapes in America (spring 2014); The American Suburb: Real and Ideal (spring 2013).

SM 780. (CPLN685, LARP535) Topics in Theory and Design. (C) Faculty.

These advanced seminars explore advanced ideas in contemporary landscape architectural design and theory. A special link is made between the analysis of built work and text to design practice and the making of projects. Topics include the intersections of art, nature and creativity; practices of analysis and criticism; ideas of urbanism and infrastructure; collaborative ventures and cross-disciplinarity; vision and visuality; and representational structures, both verbal and visual. These courses fulfill the Landscape Architecture Theory III requirement and are open to all

interested School of Design students.
Spring 2017:

Recent topics have been: Classics Considered: The Craft and Criticism of Landscape Architecture (fall 2015), instructors: Laurie Olin, Raffaella Fabiani Giannetto; Designing with Risk (spring 2016, 2015), instructors: Matthijs Bouw, Ellen Neises (2015); WORK: Aspects and Topics in Landscape Architecture (spring 2016, 2015), instructor: Laurie Olin; Edge Operations (spring 2014), instructor: Meg Studer; Landscape Thinking Research Seminar (spring 2013), instructor: Richard Weller; Designed Ecologies (fall 2011-2013), instructor: Ellen Neises; Environment Regimes (spring 2013, fall 2011, 2010, 2009, spring 2007, 2006), instructor: Dilip da Cunha; Case Studies in Urbanism, Landscape and Design (spring 2004-2014) instructor: David Gouverneur; Landscape Production and Visual Culture (spring 2009), instructor: Claudia Taborda; Landscape and Globalization (spring 2010), instructor: Claudia Taborda; Concepts & Theories in Contemporary Landscape Architecture (fall 2008, 2007, 2006, 2004, 2003), instructor: Anita Berrizbeitia; Paradoxical Spaces (spring 2008), instructors: Linda Pollak and Sandro Marpillero; Contemporary European Landscape Architecture (fall 2007), instructor: Joseph Disponzio;

796. Independent Studio. (S) Faculty.

An independent studio may be undertaken in the final semester but is not required. The independent studio is intended to provide highly motivated students who have demonstrated their ability to work independently with the opportunity to pursue topics that extend the boundaries of the profession. For permission, students must prepare a written proposal in the preceding semester and apply for approval from the faculty. Details available in Landscape Architecture department office.

999. Independent Study. (S) Faculty.

An independent study may be taken for elective credit at any point during the degree program for a letter grade. For permission, students must prepare a written proposal in the preceding semester and obtain a Landscape Architecture faculty advisor to oversee their work. Details are available in the Landscape Architecture department office.

Summer Institutes

790. LARP Summer Institute: Landscape Operations. (L) Faculty.
Course fee: \$500.00.

This one-week course, for entering three-year MLA students, introduces concepts and techniques for analyzing, representing, and operating on landform, the fundamental medium of landscape architecture. Students will learn representational and model-making techniques for conveying topography, and will describe a series of landscape interventions on a topographic surface. Through models and drawings, students will develop an appreciation for the spatial implications of landform, for landscape narrative, for the movement of water and people across the landscape, and for the operation of reshaping the ground. Course enrollment is by permit only. Please contact Darcy Van Buskirk (LARP Dept.) at darcyv@design.upenn.edu.

791. LARP Summer Institute: Drawing & Measure. (L) Faculty.
Course fee: \$500.00.

This week long introductory course is intended to enable students to orient themselves to digital media facilities, programs, and workflows. The course is focused around daily projects building up to a final pinup. Each daily project illustrates a different set of work paths between digital programs, as well as teaches students how to use different software applications key to the practice of landscape architecture today. The focus of this course is to enable students to understand what each digital software application offers to the landscape process, and how to build change and iteration into digital workflows. Course enrollment is by permit only. Please contact Darcy Van Buskirk (LARP Dept.) at darcyv@design.upenn.edu.

792. LARP Summer Institute: Natural Systems (3-year students). (L) Willig.
Course fee: \$500.00.

This four-day session for entering three-year MLA students will provide an introduction to the varied physiographic provinces and associated plant communities of the greater Philadelphia region. Through a review of available mapping and on-site study we will characterize and consider the connections between climate, geology, topography, hydrology, soils, vegetation, wildlife, and disturbance, both natural and anthropogenic. With a focus on plants students will begin to develop a familiarity with the local flora (native and non-native) including plant species identification, preferred growing conditions, and potential

for use. Field trips will include visits to the Inner Coastal Plain and Piedmont. Course enrollment is by permit only. Please contact Darcy Van Buskirk (LARP Dept.) at darcyv@design.upenn.edu.

793. LARP Summer Institute: Landform and Grading Workshop. (L) Olgyay. Course fee: \$500.00.

The reading and shaping of landform is an elemental tool in the practice of landscape architecture. The act of grading design - the shaping and sculpting of landform - is both art and science. This four-day session for entering two-year MLA students aims to provide an appreciation of landform as both an evocative component in the design vocabulary and as a critical tool in resolving difficult design problems. Basic techniques and strategies of grading design are introduced and reinforced, so that grading design becomes an integral part of the student's design approach. This session is intended to provide a concise overview of the principles and process of landform and grading design, and is designed to prepare the entering two-year students for Workshop III. Course enrollment is by permit only. Please contact Darcy Van Buskirk at darcyv@design.upenn.edu.

794. LARP Summer Institute: Natural Systems (2-year students). (L) Willig.
Course fee: \$500.00.

This five-day session for entering two-year MLA students will provide an introduction to the varied physiographic provinces and associated plant communities of the greater Philadelphia region. Through a review of available mapping and on-site study we will characterize and consider the connections between climate, geology, topography, hydrology, soils, vegetation, wildlife, and disturbance, both natural and anthropogenic. With a focus on plants students will begin to develop a familiarity with the local flora (native and non-native) including plant species identification, preferred growing conditions and potential for use. Field trips will include visits to the Coastal Plan and Piedmont of New Jersey and Pennsylvania. Course enrollment is by permit only. Please contact Darcy Van Buskirk (LARP Dept.) at darcyv@design.upenn.edu.

795. LARP Summer Institute: Computing Introduction and Academic Writing. (L) VanDerSys/Fleming. Course fee: \$500.00.

The Intro to Computing session introduces students to the facilities of digital media as the primary mode of design visual communication. The course provides a short, yet intensive, hands-on inquiry into

the production and expression of digital media that is essential for all designers. Through a series of working labs, students learn various software applications and associated techniques to execute precise two-dimensional representations of three-

dimensional concepts. Students also learn the PennDesign systems, network basics and computer lab procedures.

In the Academic Writing session, students will also receive a basic introduction to research methods, research

resources, academic writing, citation formats and standards expected by the School of Design. Course enrollment is by permit only. Please contact Darcy Van Buskirk at darcyv@design.upenn.edu.

LATIN AMERICAN AND LATINO STUDIES (AS) {LALS}

SM 016. (ENGL015) Topics in Literature. (C) Freshman Seminar.

Freshman Seminars under the title "Topics in Literature" will afford entering students who are considering literary study as their major the opportunity to explore a particular and limited subject with a professor whose current work lies in that area. Topics may range from the lyric poems of Shakespeare's period to the ethnic fiction of contemporary America. Small class-size will insure all students the opportunity to participate in lively discussions. Students may expect frequent and extensive writing assignments, but these seminars are not writing courses; rather, they are intensive introductions to the serious study of literature. One of them may be counted toward the English major and may be applied to a period, genre, or thematic requirement within the major.

057. (ENGL057) Literature of Americas Before 1900. (M) Staff.

This course examines U.S. literature and culture in the context of the global history of the Americas. Historical moments informing the course will range from the origins of the Caribbean slave-and-sugar trade at the beginning of the nineteenth century, to the Monroe Doctrine of 1823 and the U.S. Mexico and Spanish-American wars. Readings will include works by authors such as Frances Calderón de la Barca, Frederick Douglass, Helen Hunt Jackson, Henry Wadsworth Longfellow, Jose Martí, Herman Melville, John Rollin Ridge, María Amparo Ruiz de Burton, and Felix Varela.

L/R 070. (HIST070) Colonial Latin America. (A) History & Tradition Sector. All classes. Walker, T. Fulfills History & Tradition Distribution Requirement.

This course provides an introduction to the broad literature on Latin America's rich colonial history. We will begin by tracing some of the early origins of - and points of contact between - the Indian, Iberian, and Africa men and women who formed the basis of colonial society. As the course progresses, we will explore the variety of ways in which colonial subjects lived, worked, ate, worshipped, and socialized. Lectures and reading assignments will draw upon a variety of sources, including court cases, artistic renderings, city maps and street plans, travel accounts of visits to the regions, and the material, cultural, and

intellectual products made possible by the wealth and dynamism of the seventeenth and eighteenth centuries. The course will conclude with an analysis of the Age of Revolutions, a period of dramatic upheaval that remains at the center of lively scholarly debates. By the end of the semester, students will be able to engage the key questions driving these debates, the most important of which, perhaps, is: what is Latin America's colonial legacy?

071. (HIST071) Latin America 1791-Present. (B) History & Tradition Sector. All classes. Farnsworth-Alvear.

Surveys Latin American and Caribbean history from the Haitian Revolution of 1791 to the present. We will examine the legacy of Spanish colonialism and slavery, movements for national and cultural independence, twentieth-century radicalism, and the politics of race in contemporary Latin America. Readings include fictional as well as analytical representations, and a film series will accompany the course.

072. (HIST072) Introduction to Latin American and Latino Studies. (B) Dr. Ann Farnsworth-Alvear.

Designed to introduce students to the interdisciplinary field of Latin American and Latino Studies, this is a seminar oriented toward first and second year students. Readings will range widely, from scholarly work on the colonial world that followed from and pushed back against the "conquest"; to literary and artistic explorations of Latin American identities; to social scientists' explorations of how Latinos are changing the United States in the current generation.

SM 100. (ARTH100) Intro to Art. (C) Staff. For freshmen only.

Topics Varies.

SM 107. (HIST106, PSCI010) Freshman Seminar: The World After 1800. (C) Staff.

Topics Vary

L/R 110. (PSCI110) Comparative Politics. (C) Staff.

This course is designed to introduce students to comparative political analysis. How can the political behavior, circumstances, institutions, and dynamic patterns of change that people experience in very different societies be analyzed using the same set of concepts and theories? Key themes include nationalism, political culture, democratization, authoritarianism, and the nature of protracted conflict.

116. (ANTH116) Caribbean Culture and Politics. (M) Thomas, D.

This course offers anthropological perspectives on the Caribbean as a geopolitical and socio-cultural region, and on contemporary Caribbean diaspora cultures. We will examine how the region's long and diverse colonial history has structured relationships between race, ethnicity, class, gender and power, as well as how people have challenged these structures. As a region in which there have been massive transplantations of peoples and their cultures from Africa, Asia, and Europe, and upon which the United States has exerted considerable influence, we will question the processes by which the meeting and mixing of peoples and cultures has occurred. Course readings include material on the political economy of slavery and the plantation system, family and community life, religious beliefs and practices, gender roles and ideologies, popular culture, and the differing ways national, ethnic, and racial identities are expressed on the islands and throughout the Caribbean diaspora.

SM 133. (ANTH133) Native People and Their Environment. (M) Erickson. Freshman Seminar.

The relationship between the activities of native peoples and the environment is a complex and contentious issue. One perspective argues that native peoples had little impact on the environments because of their low population densities, limited technology, and conservation ethic and worldview. At other extreme, biodiversity, and Nature itself, is considered the product of a long history of human activities. This seminar will examine the Myth of the Ecologically Noble Savage, the Myth of the Pristine Environment, the alliance between native peoples and Green Politics, and the contribution of native peoples to appropriate technology, sustainable development and conservation of biodiversity.

136. (HIST136) Chicano History in the United States. (M) Staff.

On one level Chicano History is the history of Mexican-origin peoples in the United States since 1848. But Chicano also refers to the emergence of a specific historical identity grounded in the protest movements of the late 1960s and early 1970s. Both definitions are part of the project of this course. We will survey the histories of the many Mexican American people who might (or might not) consider themselves Chicano from the Mexican American War to the Zoot Suit Riots, from El Plan Espiritual de Aztlán to Selena. The class will also explore issues of ethnicity,

immigration past and present, class and gender differences, cultural conflict and exchange, transnational economies and identities, popular cultural images and production, family life and community building, struggles for equality, the relationship of Mexican Americans to Latino/as, and the controversies raised by the emergence of an increasingly multi-ethnic, multilingual society.

174. Reform and Revolution in the Americas. (C) History & Tradition Sector. All classes. Offner.

The United States and Latin America produced a remarkable series of revolutions and reforms during the twentieth century. This course examines efforts throughout the hemisphere to define and address problems around land, labor, and property; nation, empire, and autonomy; and racism, democracy, and citizenship. It considers the relationship between national upheavals, the global consequences of events in the hemisphere, and the relation between social and political history, on the one hand, and the development of economic ideas, on the other.

175. (HIST175) Society and Culture in Brazil. (C) Walker, T.

With its booming economy, the recent inauguration of its first female president, and its selection as host to the 2012 World Cup and Olympic games, Brazil is growing in global prestige. But amid all these exciting developments are devastating socioeconomic inequalities. Access to safe living conditions, livable wages, higher education, and overall social mobility remain painfully out of reach to many Brazilians, the majority of whom are the descendants of slaves. Why do these problems persist in a country that has had such an enduring and widespread reputation as a "racial democracy"? What are the possibilities of closing the equality gap in Brazil?

SM 202. (HIST202) Major Seminar in History: Europe After 1800. (C) Staff.

SM 204. (AFRC205, HIST204) Major Seminar - Americas, Post 1800. (C) Staff.

HIST 204 is a topics course. LALS 204 will be cross-listed only when the subject matter is relevant to Latin American and Latino Studies.

L/R 213. (PSCI213) Latin American Politics. (C) Falleti.

This course examines the dynamics of political and economic change in twentieth century Latin America, with the goal of

achieving an understanding of contemporary politics in the region. We will analyze topics such as the incorporation of the region to the international economy and the consolidation of oligarchic states (1880s to 1930s), corporatism, populism, and elicit pacts (1930s and 1940s), social revolution, democratic breakdown, and military rule (1960s and 1970s), transitions to democracy and human rights advocacy (1980s) market-oriented reforms (1990s), and the turn to the left of current governments (2000s). The course will draw primarily from the experiences of Argentina, Brazil, Colombia, Chile and Mexico. No prior knowledge of the region is required.

SM 220. (CIMS224, PRTG222) Literature, Film and Music of Brazil. (M) Staff. Prerequisite(s): PRTG 221.

Topics vary. For current course description, please see department's webpage: <http://ccat.sas.upenn.edu/roml/portuguese/undergraduate/courses.html>

SM 221. (COML223, SPAN221) Early Hispanic Literature and Culture. (A) Staff. Prerequisite(s): SPAN 219.

This course engages in an in-depth study of Spanish and Colonial Spanish American culture(s) from the Pre-Roman period through the 17th century. Among the topics included are: Islamic Spain, the Spanish Reconquista, the Inquisition, the Origins of the Spanish Language, Sephardic Culture in Spain, the Pilgrimage Route to St. James, Picaresque Literature, Golden Age Spanish Drama, pre-Columbian Civilizations, the Conquest of the New World, and the establishment of colonial rule in Spanish America.

SM 231. (PRTG221) Perspectives in Brazilian Culture. (M) Flannery Marcia. Prerequisite(s): Taught in Portuguese.

Topics vary. For current course description, please see department's webpage: <http://ccat.sas.upenn.edu/roml/portuguese/undergraduate/courses.html>

235. (SOC1266) Special Topics in Sociology/Latinos in the United States. (C) Emilio Parrado.

This course presents a broad overview of the Latino population in the United States that focuses on the economic and sociological aspects of Latino immigration and assimilation. Topics to be covered include: construction of Latino identity, the history of U.S. Latino immigration, Latino

family patterns and household structure, Latino educational attainment. Latino incorporation into the U.S. labor force, earnings and economic well-being among Latino-origin groups, assimilation and the second generation. The course will stress the importance of understanding Latinos within the overall system of race and ethnic relations in the U.S., as well as in comparison with previous immigration flows, particularly from Europe. We will pay particular attention to the economic impact of Latino immigration on both the U.S. receiving and Latin American sending communities, and the efficacy and future possibilities of U.S. immigration policy. Within all of these diverse topics, we will stress the heterogeneity of the Latino population according to national origin groups (i.e. Mexican, Puerto Rican, Cuban, and other Latinos), as well as generational differences between immigrants and the native born.

251. (PSCI251) Inter-American Relations. (C) Staff.

This course examines patterns of inter-American conflict and cooperation. The course examines United States-Latin American relations, regional organizations and subregional organizations. Specific topics include development, dependency, and security.

SM 252. (SPAN250) Spanish American Literature in Translation. (C) Arts & Letters Sector. All Classes. Staff. All readings will be offered in English.

This is a topics course. The topic may be "Latin American Travel Narratives or "Caribbean Writers in the U.S."

SM 254. (ANTH254) Archaeology of the Inca. (M) History & Tradition Sector. All classes. Erickson.

The Inca created a vast and powerful South American empire in the high Andes Mountains that was finally conquered by Spain. Using Penn's impressive Museum collections and other archaeological, linguistic, and historical sources, this course will examine Inca religion and worldview, architecture, sacred temples, the capital of Cuzco, ritual calendar, ceque system, textiles, metalworking, economic policies and expansionist politics from the dual perspectives of Inca rulers and their subjects. Our task is to explain the rise, dominance, and fall of the Incas as a major South American civilization.

258. (AFRC258, ANTH256, FOLK259, MUSC257) Caribbean Music & Diaspora. (M) Rommen.

This survey course considers Caribbean musics within a broad and historical framework. Caribbean musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion, and social structure are embodied in and contested through performance. These initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Caribbean contexts <-concepts such as post-colonialism, migration, ethnicity, hybridity, syncretism, and globalization. Each of these concepts, moreover, will be explored with a view toward understanding its connections to the central analytical paradigm of the course <- diaspora. Throughout the course, we will listen to many different styles and repertoires of music, ranging from calypso to junkanoo, from rumba to merengue, and from dancehall to zouk. We will then work to understand them not only in relation to the readings that frame our discussions but also in relations to our own North-American contexts of music consumption and production.

SM 260. (AFRC262, AFST260, ENGL260, GSWS260, LING470) Advance Topics in Narrative. (M) Staff.

This course explores an aspect of the novel intensively, asking how novels work and what they do to us and for us. Specific course topics will vary from year to year.

268. (ANTH258, CIS 106) Visualizing the Past/Peopling the Present. (M) Badler/Erickson.

Most people's information about the Past is drawn from coffee table picture books, popular movies, video games, documentaries about discoveries of "ancient, mysterious, and lost" civilizations, and tours often led by guides of limited or even dubious credentials. How are these ideas presented, formed, and circulated? Who creates and selects the information presented in this diverse media? Are these presentations accurate? Do they promote or hurt scientific explanations? Can the artistic, aesthetic, and scientific realms be bridged to effectively promote the past? This class will focus on case studies and critiques of how archaeology and the past are created, presented and used in movies, museums, games, the internet, and art.

SM 270. (SPAN250) Major Works in Spanish & Latin American Literature. (M) Staff.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of current offerings.

SM 271. (URBS270) Ethnicity: The Immigrant City. (M) Hanson, R.

Immigration is a controversial issue, dividing Americans from Congress to big cities to small towns. What's at stake in these debates? What does immigration mean for cities and regions? And what roles should policy makers planners, and community organizations play in shaping migration and its impacts? This course examines these questions in the context of immigrant, refugee, and receiving communities in the United States. It surveys public policy and community and economic development practices related to migration, at the local, regional, and transnational scale. Class readings, discussions, and regular visits to a variety of Philadelphia's immigrant neighborhoods explore themes including labor markets, political mobilization, social and cultural policy, and the built environment.

274. (ARTH274) Facing America. (M) Shaw.

This course explores the visual history of race in the United States as both self-fashioning and cultural mythology by examining the ways that conceptions of Native American, Latino, and Asian identity, alongside ideas of Blackness and Whiteness, have combined to create the various cultural ideologies of class, gender, and sexuality that remain evident in historical visual and material culture. We also investigate the ways that these creations have subsequently helped to launch new visual entertainments, including museum spectacles, blackface minstrelsy, and early film, from the colonial period through the 1940s.

275. Race and Ethnicity in U. S. Latino/a Literature. (C) Carmen Lamas.

In this course we will study the construction of race and ethnicity in key novels written in English by Latina/o writers. We will examine how U.S.- American race relations shape Latino/a notions and constructions of race in these texts and how the authors' connections with Latin America and the Caribbean do the same. In order to understandxc these constructions from a hemispheric perspective, we will juxtapose our reading of Latina/o texts with works by Latin American writers that address similar

issues but in a Latin American context. All coursework and discussions are in English.

SM 286. (AFRC289, ENGL286, HIST286, URBS286) Topics in American Literature. (M)

The literature studied in this course is usually organized thematically. Examples: American Authors and The Imagined Past, considering the role of history in literature and studying works by Benjamin Franklin, Nathaniel Hawthorne, William Faulkner, Mark Twain, James Fenimore Cooper, and others; "American Writers and "The School of Hawthorne" studying the influence of Hawthorne on Henry James, Flannery O'Connor, Robert Penn Warren, and others; "Ezra Pound" or "Edgar Allan Poe and the Poe Tradition."

SM 291. (COML284, ENGL270, ROML290) Latin American Literature. (M) Staff. Spaces will be reserved for English Majors.

This course explores an aspect of Latina/o literature intensively; specific course topics will vary from year to year.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 293. (COML293, ENGL293) Topics in Literature & Society. (M) Staff.

ENGL 293 is a Topics course. When the topic is Caribbean literature, the following description applies.

This course explores an aspect of Postcolonial literature intensively; specific course topics vary from year to year.

SM 296. (CIMS294, COML294, ROML296) Latin American Film. (M) Staff.

See the Romance Language site.

299. (ARTH299) Latin American Art: Pre Colombian to Colonial. (M) Staff.

This course examines the visual culture of Latin America before and after the culture of Latin America before and after the conquest up to the eighteenth century. It first explores Mesoamerican and South American art and architecture, focusing on the Olmec, Mayan, Aztec, Incan and Tupinamba. The the class studies the way in which the colonial culture of the Americas developed in the early modern period through an analysis of works in various media including codices, painting, featherwork, sculpture, architecture and print. Historical political and religious contexts will be explored in relationship to art production. Some themes for the course include hybridity, cross-cultural interaction, conversion and propaganda.

SM 301. Undergraduate Seminar.

Meister, Holod, Brownlee, Poggi, Haselberger, Kuttner, Davis, Maxwell, Pittman, Silver, Beckman, Leja, Shaw, Dombrowski, Ousterhout, Silverman.

Topics vary.

303. (HIST303) Social Movements in Latin America. (C) Farnsworth/Alvear.

This course has two goals: first, to provide an in-depth look at a select number of twentieth century social movements in Latin America. Second, to allow students to "learn by doing;" each participant will produce a major research paper based on primary sources. Readings will include testimonial accounts and fictional works, as well as critical studies.

SM 331. (PSCI331) Latino Politics. Staff.

SM 355. (SPAN355) Topics in Spanish Drama. (M) Staff.

Prerequisite(s): Span 219.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 370. (ENGL370) Topics In Latina/o Literature. (M) Staff. Benjamin Franklin Seminar.

This course explores an aspect of Latina/o literature intensively; specific course topics will vary from year to year.

SM 387. (AFRC387) Topics in Africana Studies. (C) Osuji, Sanders-Johnson, Willis. Prerequisite(s): Junior and Senior Seminar.

Topics vary. A recent topic is "The Black Body and the Lens." The Spring 2013 topic, "Race in Brazil." The goal of this course is to have an understanding of race and race-mixing in Brazil with explicit comparisons with the U.S., Mexico, and other countries in the Western Hemisphere. We will compare and contrast forms of racial categorization and ideologies towards race mixture, whether in the form of family formation, nation-building projects, and social policy. Specifically, we will examine how it has been promoted or prevented by society as well as the state. We will draw primarily on social science perspectives, however we will cover some work by historians and legal scholars. By the end of this course, students should have an understanding of the role of race-mixing in both constructing and deconstructing racial categories and its impact on racial and ethnic inequality. This course will count as a requirement for the Africana major and minor.

L/R 388. (CIMS388, SPAN388) TPCS: SPAN/LTAM CINEMA.

SM 390. (FREN390) Survey of Francophone Literature. (M)

A brief introduction about the stages of French colonialism and its continuing political and cultural consequences, and then reading in various major works -- novels, plays, poems -- in French by authors from Quebec, the Caribbean, Africa (including the Maghreb), etc. Of interest to majors in International Relations, Anthropology and African Studies as well as majors in French.

SM 391. (SPAN391) Spanish American Poetry. (M) Staff.

Prerequisite(s): Span 219.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 392. (SPAN392) Colonial Spanish American Literature. (M)

Prerequisite(s): Span 219.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 393. (COML396, ROML396) Latin American Literature. (M) Staff.

SM 394. (SPAN394) Spanish American Fiction. (M) Staff.

Prerequisite(s): Span 219.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 395. (SPAN395) Hispanic Theater. (M) Regueiro. Prerequisite(s): Span 219.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 396. (COML390, SPAN390) Introduction to Spanish American Literature. (M) Staff. Prerequisite(s): Span 219.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 397. (CIMS396, GSWS396, SPAN396) Studies in Spanish-American Literature. (M) Staff.

Prerequisite(s): Span 219.

Topics vary. See the Romance Languages Department's website at

<http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 398. (CIMS397, SPAN397) History of Spanish American Culture. (M)

Staff. Prerequisite(s): Span 219.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a description of the current offerings.

SM 414. (URBS414) Memory and Urbanism in the Americas. (M) Farber.

Whether as statues, walls, plaques, parks, or other commemorative structures, monuments are regular features of urban topography. Such "sites of memory" not only instruct us about significant events of the past, but do so in the space and time of the present. And yet, the historical memory of cities is also made legible through modes of cultural expression and inscription - including literature, visual art, graffiti, music, and street performance. Cycles of urban de-industrialization and renewal since the 1970s, as well as legacies of conflict and inequality, have exacerbated the need for alternate forms of commemoration. The Occupy movement is one continued example of how urban space can be reanimated through demarcation, embodiment, and calls for collectivity.

SM 419. (PSCI419) Democracy and Decentralization. (M) Falleti, T.

Are decentralization reforms fostering local community participation and improving the quality of democracy in Latin America? Are they, instead, posing a threat to democracy and development? In the last thirty years, Latin American countries have undergone major reforms that devolved fiscal resources, administrative responsibilities, and political authority from the central governments to the states and municipalities. These decentralization reforms have radically altered the political landscape in Latin America, even in the countries that have since then tried to recentralize power, such as Venezuela. What were the main causes of the decentralization movement? Who were the main national and international actors who pushed forward these reforms? What have the main political, fiscal, and policy consequences of decentralization been? These are some of the questions this course will focus on. The experiences of decentralization in Argentina, Brazil, Colombia, Bolivia, Venezuela, and Mexico will be studied. Although prior knowledge of Latin American politics is not required, additional readings will be assigned to the students who have not taken at least one

introductory course in Latin American politics, history or cultures.

SM 425. (SOCI425) LATIN@ CULTURAL HISTORY. Irizarry, Johnny.

This course takes a multi-disciplinary approach to the study of the resiliency and impact of Latin@ cultural and artistic contributions, esthetics, expressions and institution building in the United States from the Civil Rights Era to the present. We will explore how Latin@s argue culturally defining being "American"; how their artistic expressions fit and influence the creativity and productivity of American and global Arts & Cultural expressions; and the Latin@ interactions of race, culture, society, economy and politics in the U.S.

SM 431. (SOCI431) Modern Mexican Society. (M)

An introduction to social, political, and economic organization of modern Mexico. This course traces to evolution of Mexico's fundamental societal institutions from their birth during the Mexican Revolution of 1910, through their flowering during the 1950's and 1960's, to recent changes under neoliberal administrations. The course ends with a discussion of Mexico's transition to democracy and the election of the first opposition President in 80 years.

433. (ANTH433) Andean Archaeology. (M) Erickson.

Consideration of culture history of native peoples of Andean area, with emphasis on pre-conquest archaeology of Central Andean region.

468. (ANTH468) The Ancient Maya. (M) Sharer.

Examination of current understanding of Ancient Maya, emphasizing critical review of recent archaeological research and theories.

SM 527. (AFRC527) Spring 2015: Race, Gender & Auto/Biography. (C) Sanders.

Story telling, oral history, and memoir are some of the oldest forms of documenting lives. Pivoting around the themes of voices, authenticity and memory, this course reconsiders the methods, theories and archival practices of autobiography, biography and oral history. It builds on the last two decades of scholarship that pair oral history with traditional written archival material- giving particular attention to the methodologies and practices used by African descended women and queer storytellers and listeners. During our discussions, we will consider the ethics between researcher and storyteller while

addressing the following questions: How do emotions, performances, and identities (gender, sexuality, race, age (dis)ability, etc.) inform the stories we tell and collect? How does history impact the contemporary construction and narration of history? How does the practice and procedure of black women's and queer autobiography, biography and oral history inform interdisciplinary research methods and blur narrative genres?

SM 554. (PSCI554) DEMOC IN LATIN AMERICA. (M)

SM 557. (AAMW557, ANTH557) Seminar in Archaeological Theory and Method: Archaeology of Landscapes. (M) Erickson, C.

Advanced seminar for potential professional archaeologists. Course will examine critically main past and present theoretical issues in archaeological research and interpretation, and consider various methodologies utilized towards these interpretive ends.

SM 586. (ENGL586) Topics in 20th Century American Fiction. (M) Staff.

This course covers topics in 20th-Century American fiction with specific emphasis determined by the instructor.

SM 587. (HIST587) Iberian Colonialism. (H) Staff.

The creation of colonial societies in America under Spanish and Portuguese rule. Emphasis on primary sources (English translation) dealing with the social, cultural and biological effects of European contact. Topics include: the role of missionaries and evangelization, Iberian and Indian perceptions of the "other", the impact of Old-World diseases, animals and plants on American people and ecosystems.

SM 589. (ANTH589, HIST589) Conquest and Conversion. (C) Staff.

Early culture contact in Mesoamerica (Mexico and Central America) and the Andes. Compares European and Amerindian conceptions of time and space of evil and disorder, the individual's relation to society, the physical world, and the sacred. Emphasis is on the zones and the means of intercultural communication - especially as influenced by the introduction of European writing -- and on the intermediaries who straddled the linguistic and cultural boundaries.

SM 590. (COML590, ENGL590, GSWS589) Introduction to Francophone Literature. (M)

An introduction to major literary movements and authors from five areas of Francophonie: the Maghreb, West Africa, Central Africa, the Caribbean and Quebec.

SM 592. (ENGL592) 20th Century Literature & Theory. (M)

This course treats some aspect of literary and cultural politics in the 20th-Century with emphasis varying by instructor.

SM 655. (PSCI655) Democratization. (M) Falleti.

This graduate class focuses on issues of democratization (and de-democratization), as studied in the comparative politics literature. The course is structured in four parts. In the first part, we scrutinize conceptualizations and measurements of democracy. In the second part, we study competing political theories about the origins of democracy. The third part of the seminar is devoted to the study of democratic transition and consolidation processes. To finish, we tackle specific issues in democratization such as social capital and civic participation, as well as the resilience of (subnational) authoritarianism.

SM 673. (EDUC673) Selected Topics in Education Linguistics. (C)

The focus for each semester will vary to reflect those issues most relevant to current concerns in educational linguistics.

SM 677. (SOCI677) International Migration. (M) Flippen, C.

A comprehensive review of theories and research on international migration. The course introduces the basic precepts of neoclassical economics, the new economics of labor migration, segmented labor market theory, world systems theory, social capital theory, and the theory of cumulative causation. Readings examine patterns and processes of global migration during the classic age from 1800-1914 as well as during the postwar period from 1945 to the present. The course concludes with an evaluation of immigration policies in the United States.

SM 690. (COML691, SPAN690) Studies in Spanish American Literature. (M) Staff.

Topics vary. Previous topics have included Latin American Narrative and Art in Times of Globalization, Modernismo / fin de siglo, Art, Literature, and Society in Latin America at the End of the 20th Century.

SM 692. (SPAN692) Colonial Literature of Spanish America. (M) Staff.

Study of the historical context of the colonial period in Spanish America and of major works in prose and poetry.

SM 694. (CIMS694, SPAN694) Spanish & Latin Am Cine. (M) Staff.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 697. (SPAN697) Studies in Latin American Culture. (M) Staff.

Topics vary. See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml/> for a description of the current offerings.

SM 710. (AFRC710) POL/SOC HIST AFR DIASP.

SM 720. (COML720, MUSC720) Studies in Renaissance Music. (M) Staff.

Seminar on selected topics in the music of the Renaissance.

SM 770. (AFRC771, FOLK770, MUSC770) Seminar in Afro-American Music. (M) Ramsey.

This course will consider the American musical landscape from the colonial period to the present with an emphasis, though not exclusive focus, on non-written traditions. The course is not a chronological journey, but rather a topical treatment of the various issues in the history of American music.

Some of the specific, project-oriented activities of the course will consist of, but will not be limited to the following: (1)participating in the development of a traveling exhibition on the Apollo Theater for the SmithsonianInstitution; (2)development of a permanent website for a history of jazz course at Penn; (3)reviewing two manuscripts for publication to a major press; (4)developing a working proposal for a history of African American music. In this context students will learn the basics of contemporary music criticism, including: identifying a work's significant musical gestures; positioning those gestures within a broader field of musical rhetoric, conventions, and social contracts; and theorizing the conventions with respect to large systems of cultural knowledge, such as historical, geographical contexts as well as the lived experiences of audiences, composers, performers, and dancers. Other topics covered: origin and development of American popular music and gendered and racial aspects of American classical music.

SM 771. (HIST770) ORAL HISTORY. (C)

798. Advanced Topics. (C)

Titles and Topics vary. See department website for descriptions: <http://www.sp2.upenn.edu/programs/msw/courses.html>

The growing importance of technology in business and industry and the corresponding increase in the scope of regulation in this area are creating greater synergies between law and technology.

Gone are the days when each discipline could exist in its own sphere. Practicing technologists are learning that they need a better understanding of the legal considerations affecting their work. This course will introduce the key legal principles that technology professionals need to know, presenting them from the bottom-up the way a practicing technologist would experience them. Major topics will include the impact of potential liability on product design, differences when life-critical systems are involved, proper and improper uses of intellectual property, privacy regulation, permissible constraints imposed by nondisclosure agreements and employment relationships, and the entrepreneurship-related aspects of technology law.

560. BUSINESS IMMIGRATION.

568. FEDERAL CRIMINAL LAW.

576. PENN STAFF IND STUDY.

577. INTERNET LAW.

578. DISCOVERY METHODS.

585. UNINCORPORATED BUSINESS.

587. ENTERTAINMENT LAW.

588. HEALTH LAW FRAUD & ABUSE.

596. FASHION LAW.

598. STRUCTURING VENTURE CAP.

732. International Civil Society Law.

LEGAL STUDIES AND BUSINESS ETHICS (WH) {LGST}

101. Introduction to Law and Legal Process. (C) Staff.

This course presents law as an evolving social institution, with special emphasis on the legal regulation of business. It considers basic concepts of law and legal process, in the U.S. and other legal systems, and introduces the fundamentals of rigorous legal analysis. An in-depth examination of contract law is included.

202. (LGST802) Law of Corporate Management and Finance. (C)

Constan, Orts.

This course provides an introduction to the law of corporate management and finance, focusing on large publicly held corporations. It is presented from the perspective that before too long virtually all students will serve on one or more corporate boards of directors and that each should, therefore, know about the duties owed by directors and officers to those toward whom they bear a fiduciary duty. The course covers the basic obligations of corporate directors and managers under state corporate law and the federal securities laws. It also considers the rights and responsibilities of other major stake holders in the governance of public corporations, including shareholders, creditors/bondholders, employees (including corporate executives), investment bankers, corporate lawyers, and accountants. Particular attention is given to the law of mergers and acquisitions. Important issues of social policy concerning large business corporations are also discussed.

204. (LGST804, REAL204, REAL804) Real Estate Law. (C) Staff.

See Real Estate, REAL 204

205. (LGST805, MKTG260, MKTG760) Law of Marketing and Antitrust. (C)

Cornell.

The course explores the legal aspects of competition. The aim is to understand what legal obligations a business organization owes to its competitors and consumers. In particular, the course focuses on permissible and impermissible marketing tactics, pricing strategies, use of intellectual property (including patents, copyrights, and trademarks), and exertion of market dominance. The focus is primarily on U.S. law, but the challenges posed by diverse domestic, foreign, and international

regimes will also be discussed. The course is useful to students interested in marketing strategy or competitive business strategy, and, more broadly, to anyone desiring to understand the legal and public policy issues relating to competitive business interaction.

206. (MGMT291, OIDD291) Negotiation and Conflict Resolution. (C) Staff.

This course examines the art and science of negotiation, with additional emphasis on conflict resolution. Students will engage in a number of simulated negotiations ranging from simple one-issue transactions to multi-party joint ventures. Through these exercises and associated readings, students explore the basic theoretical models of bargaining and have an opportunity to test and improve their negotiation skills.

207. (LGST809) The Sports Industry: Business and Legal Aspects. (C)

Rosner, Shropshire.

This course examines various business disciplines as they apply to the sports industry. The course provides the student with an overview of the business of the intercollegiate, Olympic and professional sports enterprises. In addition, the course investigates the business related issues encountered by managers of sports organizations and covers how business principles can be applied to effectively address these issues.

208. (LGST808, MGMT247) The Law at Work: Employment Law for Managers. (C) Weinstein.

This course is based on the principle that knowledge and understanding of employment law facilitate (1) promotion of a workforce with a high degree of commitment to reaching business goals, (2) the development of practical business solutions to problems arising in the workplace, (3) effective human resources policy and procedures that comply with applicable laws. It provides students with an introduction to the law of the workforce and examines the balance between business goals and employment law compliance.

The course examines the various employment laws with which businesses must comply and the legal rights and responsibilities of employees and employers. The emphasis is on laws concerning equal employment opportunity with respect to discrimination and harassment because of sex, race, national origin, religion, sexual orientation, age, disability and other characteristics protected by workforce laws; work-related privacy including investigations, electronic

communication and social media; employee misclassification; diversity and affirmative action; and the legal and regulatory environment regarding immigration, wage and hour, leaves of absence, hiring, termination and afterwards, the non-employee workforce, whistle blower concerns, labor/management relations and collective bargaining.

210. Corporate Responsibility and Ethics. (C) Staff.

This course explores business responsibility from rival theoretical and managerial perspectives. Its focus includes theories of ethics and their application to case studies in business. Topics include moral issues in advertising and sales; hiring and promotion; financial management; corporate pollution; product safety; and decision-making across borders and cultures.

211. (HCMG211, HCMG854, LGST811) Legal Aspects of Health Care. (C) Rosoff, Field.

This course offers a current and historical overview of the legal oversight and regulation of health care delivery in the U.S. It examines principles and practical applications of the laws that affect the operational decisions of health care providers, payors, and managers and that impact the development of markets for health care products and services. Also considered are the social, moral, and ethical issues encountered in trying to balance the interests, needs and rights of individuals against those of society. For part of the term, the class will divide into two groups so that students can focus on their choice of (a) health care management or (b) selected issues of patients' rights.

212. (BEPP212) Economic Analysis of Law. (C) Buccola. Prerequisite(s): Econ 001.

The course is designed to teach students how to think as an economist about legal rules; to evaluate alternative legal rules against standards of economic efficiency and distributive justice; and to understand the nature of the legal process and several specific areas of the law. With the use of alternative texts, both deductive and inductive reasoning will be employed to study the formation and interpretation of legal rules.

213. (LGST813) Legal Aspect of Entrepreneurship. (C) Hochstadter.

Legal Aspects of Entrepreneurship is a practical, hands-on course examining critical legal issues that confront start-up and mature companies with a focus on

entrepreneurship. Students will emerge prepared to use law as a positive force for growth and success of their business plans, as well as to manage and mitigate legal risk via company policies, contracts, insurance or ADR. They will also learn when it is strategic and cost-effective to turn to legal counsel. Case studies incorporate current issues, and real life client/courtroom experience. Topics cover intellectual property; non-competition, non-disclosure and invention assignment agreements; choice of entity and tax; venture capital and private equity; mergers and acquisitions; bankruptcy; securities; discrimination; and independent contractors. This course will prove useful for any business career in providing an overview of business law and social policy.

214. (LGST814) International Business Transactions. (C) Nichols.

This course aims to familiarize students with and prepare students for the conduct of international transactions. Students will work their way through a series of hypothetical trade transactions, placed against a background of concepts and general theories. Students will take a hypothetical firm through a series of possible transnational investments, again after discussion of concepts and general theories. Throughout, the course will discuss issues of importance to emerging economies. Students should be able to make thoughtful choices rather than simply reciting bullet points about international business transactions.

215. (LGST815, MGMT213, MGMT713) Environmental Management: Law & Policy. (C) Orts, Light.

This course provides an introduction to environmental management by focusing on foundational concepts of environmental law and policy and how they affect business decisions. The primary aim of the course is to give students a deeper practical sense of the important relationship between business and the natural environment, the existing legal and policy framework of environmental protection, and how business managers can think about managing their relationship with both the environment and the law.

216. Emerging Economies. (C) Nichols.

This course explores important issues in conducting business internationally in and with emerging economies. Much of the course attempts to define emerging economies and to understand the changes occurring in these countries. The course

also examines the position of emerging economies in the global context, and how broad social issues affect the development of emerging economies and the ability to establish relationships or conduct business in emerging economies.

218. (AFRC218) Diversity and the Law. (C) Anderson.

The goal of this course is to study the role the law has played, and continues to play, in addressing the problems of racial discrimination in the United States. Contemporary issues such as racial profiling, affirmative action, and diversity will all be covered in their social and legal context. The basis for discussion will be assigned texts, articles, editorials and cases. In addition, interactive videos will also be used to aid class discussion. Course requirements will include a term paper and class case presentations.

219. Law and Policy in International Business. (C) Zaring.

This course introduces students to the legal frameworks for regulating international business - national, regional, and international. Topics include mechanisms for dispute resolution, different standards on assigning nationality, jurisdictional and choice of law problems, controversies regarding the treatment of incoming foreign direct investment and expropriation of foreign-owned businesses, patterns in extraterritoriality, problems of clashing legal standards affecting areas like labor and the environment, and projects for creating more uniform rules governing the conduct of international business. Throughout students will be encouraged to evaluate the policy dimensions of laws and to develop their own critical perspectives regarding these.

220. (LGST820) International Business Ethics. (C) Staff.

This course is a multidisciplinary, interactive study of business ethics within a global economy. A central aim of the course is to enable students to develop a framework to address ethical challenges as they arise within and across different countries. Alternative theories about acting ethically in global environments are presented, and critical current issues are introduced and analyzed. Examples include bribery, global sourcing, environmental sustainability, social reports, intellectual property, e-commerce, and dealing with conflicting standards and values across cultures. As part of this study, the course considers non-Western ethical traditions and practices as they relate to business.

221. Constitutional Law and Free Enterprise. (C) Sepinwall.

The course explores the fundamentals of U.S. constitutional doctrine and adjudication, with an emphasis on commercial and business issues and implications of constitutional law. The course starts by considering the Constitution and the structure and relationship of the governmental entities it establishes and upon which it depends. Special attention is given to the role of the federal courts, especially the Supreme Court, in interpreting and applying constitutional principles. From this foundation, the course moves on to examine in detail the major economic and business implications of constitutional law in different eras of the nation's history. A core theme is how historical events and changing notions of public policy have affected and been affected by the evolution of constitutional doctrine.

222. (OIDD222) Internet Law & Policy. (C) Werbach.

The Internet has become central to business and daily life. This course looks at how courts, legislatures, and regulators confront the major legal issues that the Internet poses. The fundamental challenge is that law comes from governments and other institutions in specific places, but the Internet is global and virtual. Conflicts such as the shutdown of the Napster peer-to-peer file-sharing service and the debate over "network neutrality" regulations for broadband access illustrate the challenge. How does the legal system think about Google, Skype, Twitter, and Facebook? How should it?

The material in the course ranges from the foundations of cyberlaw, developed during the e-commerce boom of the 1990s, to current leading-edge questions around social networks, user-generated content, location-based services, cloud computing, and broadband platforms. Major topics include: how legally-enforceable contracts are made online; how courts determine jurisdiction over online transactions; intellectual property rules around digital assets such as music, video, and online texts; control over Internet domain names; liability of intermediaries such as Internet Service Providers and search engines; and online privacy protections. No pre-existing legal or technical knowledge is required.

223. (LGST807) Securities Regulation. (C) Buccola.

The course examines the federal securities laws and the operation of the Securities Exchange Commission. The legal responsibilities of corporate managers,

accountants, underwriters, and broker-dealers, occasioned by the securities regulatory scheme, will be investigated. Students will be encouraged to evaluate, from a managerial perspective, the various aspects of securities regulation studied. The course will discuss the recent financial crisis and ask the question whether enhanced securities regulation will prevent such a crisis in the future. The material covered in the course will provide familiarity with the basic legal structure of securities regulation and will assist in understanding the current policy issues in securities law. The course should help students to develop the ability to read and learn further in the field and to improve their effectiveness of communication with attorneys. It will also suggest ways of detecting instances in which an attorney should be consulted. The course is particularly useful for those students pursuing careers in corporate finance, investment banking, mergers and acquisitions, sales and trading, venture capital, private equity, entrepreneurship, accounting, corporate management, and real estate.

224. (LGST524) Human Rights and Globalization. (C) Bellace.

The 2000 UN Global Compact has confirmed the role of TNCs as central actors in the UN system of international human rights law, but whether their role should be voluntary or legally mandated remains in dispute. This course introduces students to how globalization has led to projects for expanding international human rights law to capture the operations of TNCs and why this development is opposed in many quarters. Competing perspectives on the pros and cons of imposing human rights responsibilities on TNCs and on the respective roles that businesses and governments should play will be examined. The Positions of various governments, businesses, international institutions, academics, and NGOs will be considered, and a number of illustrative case studies will be analyzed.

226. Markets, Morality & the Future of Capitalism. (C) Cornell.

Markets play a central role in the life of a capitalist democracy. But is this a good thing? Should we let markets decide who is rich and who is poor? Who makes decisions and who follows them? Whose ideas get heard and whose ideas do not? The goal of this class will be to examine the market from the perspective of various social values to see whether we should want a market system and, if so, what kind of market system we should want. Among

the issues we will examine are the following. Does the market contribute to the common good? If so, how? Does the market conflict with the idea that all human beings are of equal value? What is the relation between the market and freedom? Does the market liberate us or oppress us? Can we reconcile the market with our democratic ideals? What role should corporations play in a healthy democracy? What role should markets play in an increasingly globalized world? We will read several important philosophers, economists and political theorists writing on these issues, including Adam Smith, John Rawls, Amartya Sen, Friedrich Hayek, Karl Marx, Robert Nozick, Jurgen Habermas, and others. Grades will be based on three papers and class participation.

227. Literature of Success. (C) Shell.

This course explores the history, literature, and philosophy of two age-old questions: what does it mean to be successful and how does one achieve this elusive goal? It surveys some of the classics of the "success" genre - from Benjamin Franklin's Autobiography in the 18th century to Dale Carnegie's How to Win Friends and Influence People and Marcus Buckingham's Now, Discover Your Strengths in the 20th and 21st centuries. Case studies of remarkable achievements in business and society and Arthur Miller's play Death of a Salesman provide additional contexts within which to reflect on the questions at the center of the course. Students will keep a personal journal and use web-based tools to examine their own character strengths, talents, and achievement orientations. Grading is based on class attendance and participation, reading response papers, personal journals on assigned topics involving self reflection, a mid-term paper on an assigned research subject related to success, and a final, longer paper exploring, based on course readings and original research, each student's personal philosophy of success. No final exam.

228. Sports Law. (C) Staff.

This course focuses on the areas of association, contract, constitutional, labor, antitrust, and agency law as they apply to the sports industry. This course exposes the student to many of the legal issues facing stakeholders in sport organizations. Special attention is given to the regulation of professional sports leagues promoting competitive balance, as well as antitrust law and labor-management relations dealing with the organization structure of sports leagues. The course also takes an inside look at previous and newly formed

collective bargaining agreements and the use of Salary Cap or lack thereof in professional sports leagues. The development of effective communication skills will be emphasized through class presentations, written assignments, and quizzes; leadership and interpersonal communications will be cultivated through small group projects and meetings, and critical thinking and problem solving skills will be fostered through the careful study of case law impacting the sports industry in a variety of facets.

230. Social Impact and Responsibility: Foundations. Gordon, Nichols.

What role can business play in helping to meet global societal needs, whether it involves the environment, improving health, expanding education or eradicating poverty? Is there any responsibility on the part of business to help meet those needs? What are models of successful business engagement in this area? How should success be measured? Are there limits to what businesses can and should do, and what institutional changes will enable businesses and entrepreneurs to better succeed?

This survey course provides students the opportunity to engage in the critical analysis of these and other questions that lie at the foundation of social impact and responsibility as an area of study. The course involves case studies, conceptual issues, and talks by practitioners. The course is designed to help students develop a framework to address the question: How should business enterprises and business thinking be engaged to improve society in areas not always associated with business? The course is required for the secondary concentration in Social Impact and Responsibility

240. (OIDD240) Gamification for Business. (C) Werbach.

Gamification means using the techniques of digital game design to serve business and social impact objectives. The video game industry is now bigger than Hollywood because well-designed games take advantage of both technology and psychology. Gamification takes the elements of games and applies them to real-world environments. Major companies and fast-growing startups now use it in marketing, human resources, innovation processes, health and wellness, education, and customer engagement.

This course examines the mechanisms of gamification their effective use in business or other contexts. No particular technical skills or game knowledge are

required. The focus is on gamification as a design practice, which is rooted in research on human motivation and implemented through online systems and social media. To illustrate these concepts, the course itself will be gamified.

241. (LGST641) Theories of the Business Enterprise. (C) Orts.

What is a business firm? How did various forms of business, including the corporation, arise historically? How do contemporary economic and financial theories explain how business firms evolve, grow, and die? What are the legal underpinnings of the forms of business enterprise, ranging from sole proprietorships to partnerships to family-owned enterprises to multinational corporate groups? How do business firms relate to politics and government, as well as religion? What about the environment? This interdisciplinary course offers an introduction to pursuing answers to these questions. Students will gain perspective on the nature of business enterprises from different points of view that will be useful in further research, as well as having practical application. Ubiquitous economic concepts such as agency costs, principal-agent relationships, transaction costs, and influence costs will be studied. Different legal structures of firms will also be introduced, including new hybrid organizations such as benefit corporations, which seek to meld non-profit and profit objectives.

In the course, we will read high-profile U.S. Supreme Court cases such as Citizens United and Hobby Lobby and debate appropriate boundaries (or not) between business and politics, as well as business and religion. Business ethics and the nature of any social responsibilities owed by business and business people will be topics too.

292. (MGMT292, OIDD292) Advanced Negotiations. (C) Schweitzer, Staff.
Prerequisite(s): LGST 206 Negotiations.

This course is designed to teach negotiation principles and to enable students to develop their negotiation skills. This course assumes familiarity with the basic negotiation concepts covered in the prerequisite for this course: Negotiations.

In this course, we extend the study and practice of negotiations and we develop a deeper understanding for how specific aspects of the negotiation process (e.g., emotions, deadlines, trust violations) impact outcomes. Through course lectures, readings, and case exercises, students will develop a rich framework for thinking

about the negotiation process and acquire tools for guiding the negotiation process.

SM 299. Seminar in Law and Society. (C) Staff. See department for current offerings.

A study of the nature, functions, and limits of law as an agency of societal policy. Each semester an area of substantive law is studied for the purpose of examining the relationship between legal norms developed and developing in the area and societal problems and needs.

524. (LGST224) Human Rts & Globalization. (C) Bellace.

The 2000 UN Global Compact has confirmed the role of TNCs as central actors in the UN system of international human rights law, but whether their role should be voluntary or legally mandated remains in dispute. This course introduces students to how globalization has led to projects for expanding international human rights law to capture the operations of TNCs and why this development is opposed in many quarters. Competing perspectives on the pros and cons of imposing human rights responsibilities on TNCs and on the respective roles that businesses and governments should play will be examined. The positions of various governments, businesses, international institutions, academics, and NGOs will be considered, and a number of illustrative case studies will be analyzed.

641. (LGST241) Theories of the Business Enterprise. (C) Orts.

What is a business firm? How did various forms of business, including the corporation, arise historically? How do contemporary economic and financial theories explain how business firms evolve, grow, and die? What are the legal underpinnings of the forms of business enterprise, ranging from sole proprietorships to partnerships to family-owned enterprises to multinational corporate groups? How do business firms relate to politics and government, as well as religion? What about the environment? This interdisciplinary course offers an introduction to pursuing answers to these questions. Students will gain perspective on the nature of business enterprises from different points of view that will be useful in further research, as well as having practical application. Ubiquitous economic concepts such as agency costs, principal-agent relationships, transaction costs, and influence costs will be studied. Different legal structures of firms will also be introduced, including new hybrid

organizations such as benefit corporations, which seek to meld non-profit and profit objectives.

In the course, we will read high-profile U.S. Supreme Court cases such as Citizens United and Hobby Lobby and debate appropriate boundaries (or not) between business and politics, as well as business and religion. Business ethics and the nature of any social responsibilities owed by business and business people will be topics too.

SM 920. Ethics in Business and Economics. (M) Staff. Ph.D Course.

The seminar explores the growing academic literature in business ethics. It also provides participants an opportunity to investigate an ethical issue of their choosing in some depth, using their field of specialty as context. The seminar assumes no previous exposure to business ethics. Different theories and frameworks for investigating issues will be discussed. In turn, these theories will be applied to a range of issues, both domestic and international. Such issues include: corruption in host countries, the management of values in modern corporations, the ethical status of the corporation, ethics in sophisticated financial transactions (such as leveraged derivative transactions), and gender discrimination in the context of cultural differences. Literature not only from business ethics, but from professional and applied ethics, law, and organizational behavior will be discussed. Often, guest speakers will address the seminar. At the discretion of the class, special topics of interest to the class will be examined. Students will be expected to write and present a major paper dealing with a current issue within their major field. The course is open to students across fields, and provides integration of ideas across multiple business disciplines.

SM 921. Foundations of Business Law. (M) Staff. Ph.D Course.

This course will introduce students to basic jurisprudential discussions and debates that relate to understanding business in society. Topics will include a general overview of the nature of law and its relationship to ethics; theories of contract, torts, and property; criminal law as it applies to business situations; and theories of the business enterprise and its regulation. Selected topics will also be chosen in accordance with the interest of participants in the seminar.

LINGUISTICS (AS) {LING}

American Sign Language and Irish Gaelic courses are sponsored by the Department of Linguistics and offered through the Penn Language Center. Please see <http://ccat.sas.upenn.edu/plc/>

Undergraduate Courses

L/R 001. Introduction to Linguistics. (C) Natural Science & Mathematics Sector. Class of 2010 and beyond. Staff.

A general introduction to the nature, history and use of human language, speech and writing. Topics include the biological basis of human language, and analogous systems in other creatures; relations to cognition, communication, and social organization; sounds, forms and meanings in the world's languages; the reconstruction of linguistic history and the family tree of languages; dialect variation and language standardization; language and gender; language learning by children and adults; the neurology of language and language disorders; the nature and history of writing systems. Intended for any undergraduate interested in language or its use, this course is also recommended as an introduction for students who plan to major in linguistics.

SM 051. Proto-Indo European Language and Society. (M) History & Tradition Sector. All classes. Noyer. Freshman Seminar.

Most of the languages now spoken in Europe, along with some languages of Iran, India and central Asia, are thought to be descended from a single language known as Proto-Indo-European, spoken at least six thousand years ago, probably in a region extending from north of the Black Sea in modern Ukraine east through southern Russia. Speakers of Proto-Indo-European eventually populated Europe in the Bronze Age, and their societies formed the basis of the classical civilizations of Greece and Rome, as well as of the Celtic, Germanic and Slavic speaking peoples. What were the Proto-Indo-Europeans like? What did they believe about the world and their gods? How do we know? Reconstruction of the Proto-Indo-European language, one of the triumphs of comparative and historical linguistics in the 19th and 20th centuries, allows us a glimpse into the society of this prehistoric people.

In this seminar students will, through comparison of modern and ancient languages, learn the basis of this reconstruction -- the comparative method

of historical linguistics -- as well as explore the culture and society of the Proto-Indo-Europeans and their immediate descendants. In addition, we will examine the pseudo-scientific basis of the myth of Aryan supremacy, and study the contributions of archaeological findings in determining the "homeland" of the Indo-Europeans. No prior knowledge of any particular language is necessary. This seminar should be of interest to students considering a major in linguistics, anthropology and archaeology, ancient history or comparative religion. (Also fulfills Cross-Cultural Analysis.)

SM 054. Bilingualism in History. (A) Freshman Seminar.

This course introduces the foundations of linguistics - the scientific study of language - through exploration of multilingualism in the USA and in different societies around the world.

Contacts between groups of people speaking different languages are documented from earliest records, and around the world it remains the norm to find more than one language in regular use in a single community. In this course we will see that multilingualism is a catalyst for linguistic change: sometimes languages are lost; sometimes new languages are created; sometimes the structure of a language is radically altered. We will consider: Which parts of linguistic structure are most susceptible to change under conditions of bilingualism? Does language contact - whether a result of trade, education, migration, conquest, or intermarriage - influence language structure in predictable ways? How do individual speakers handle multiple languages? How have attitudes to speakers of multiple languages changed through history? How have socio-historical events shaped the linguistic situation in the USA?

L/R 102. Introduction to Sociolinguistics. (B) Society Sector. All classes. Tamminga. Satisfies Quantitative Data Analysis.

Human language viewed from a social and historical perspective. Students will acquire the tools of linguistic analysis through interactive computer programs, covering phonetics, phonology and morphology, in English and other languages. These techniques will then be used to trace social differences in the use of language, and changing patterns of social stratification. The course will focus on linguistic changes in progress in American society, in both mainstream and minority communities, and the social problems associated with them. Students will engage

in field projects to search for the social correlates of linguistic behavior, and use quantitative methods to analyze the results.

103. Introduction to Language: Language Structure and Verbal Art. (A) Arts & Letters Sector. All Classes. Ringe.

The purpose of this course is to explore the relationship between linguistic structure and the use of language for artistic purposes. The syllabus is organized as a sequence of units, each built around a particular theme. These include the sound structure of poetry (meter, rhyme, and other linguistic patterns in Jaberwocky, the Odyssey, Shakespeare, the Troubadours, and others); how precise linguistic data can be used to solve an outstanding literary problem (determining the approximate date when Beowulf was composed); and the structure of folktales of various cultures and of narratives of everyday experience.

L/R 105. (CIS 140, COGS001, PHIL044, PSYC207) Introduction to Cognitive Science. (A) Brainard/Ungar. This is a Formal Reasoning course.

Cognitive Science is founded on the realization that many problems in the analysis of human and artificial intelligence require an interdisciplinary approach. The course is intended to introduce students to the problems and characteristic concepts of Cognitive Science, drawing on formal and empirical approaches from the parent disciplines of computer science, linguistics, neuroscience, philosophy and psychology. The topics covered include Perception, Action, Learning, Language, Knowledge Representation, and Inference, and the relations and interactions between such modules. The course shows how the different views from the parent disciplines interact, and identifies some common themes among the theories that have been proposed. The course pays particular attention to the distinctive role of computation in such theories, and provides an introduction to some of the main directions of current research in the field.

L/R 106. Introduction to Formal Linguistics. (A) Staff. This is a Formal Reasoning course.

This course is intended as an introduction to the application of formal language theory, automata theory, and other computational models to the understanding of natural human language. Topics include regular languages and finite state automata; context-free languages and pushdown automata; recursive transition networks; augmented transition networks; tree-adjointing grammars.

L/R 115. Writing Systems. (A) History & Tradition Sector. All classes. Buckley. The historical origin of writing in Sumeria, Egypt, China, and Mesoamerica; the transmission of writing across languages and cultures, including the route from Phoenician to Greek to Etruscan to Latin to English; the development of individual writing systems over time; the traditional classification of written symbols (ideographic, logographic, syllabic, alphabetic); methods of decipherment; differences between spoken and written language; how linguistic structure influences writing, and is reflected by it; social and political aspects of writing; literacy and the acquisition of writing.

120. Introduction to Speech Analysis. (C) Kuang. Satisfies Quantitative Data Analysis.

This course focuses on experimental investigations of speech sounds. General contents include: the fundamentals of speech production and perception; speech analysis tools and techniques; and topics in phonetic studies. The course consists of integrated lectures and laboratory sessions in which students learn computer techniques for analyzing digital recordings.

140. Construct a Language. (M) Legate.

In this course, students construct their own language, one that is compatible with what is known about possible human languages. To this end, the course investigates language typology through lectures and examination of grammars of unfamiliar languages. Topics include language universals, points of choice in a fixed decision space, and dependencies among choices.

160. (AFRC160) Introduction to African American and Latino English. (A) Staff.

An introduction to the use and structure of dialects of English used by the African American and Latino communities in the United States. It is an academically based service learning course. The field work component involves the study of the language and culture of everyday life and the application of this knowledge to programs for raising the reading levels of elementary school children.

230. (LING503) Sound Structure of Language. (B) Noyer. Prerequisite(s): Prerequisite: A prior course in linguistics or permission of instructor.

An introduction to phonetics and phonology. Topics include articulatory phonetics (the anatomy of the vocal tract;

how speech sounds are produced); transcription (conventions for representing the sounds of the world's languages); classification (how speech sounds are classified and represented cognitively through distinctive features); phonology (the grammar of speech sounds in various languages: their patterning and interaction) and syllable structure and its role in phonology.

240. Structure of a Language. (M) Staff.

Designed to apply linguistic principles to the grammatical analysis of a particular language, this course focuses on a different language each time it is given, according to the decision of the instructor. It may be taken by students with prior knowledge of the language in question who have not taken previous courses in linguistics, and by students of linguistics who wish to explore a new language. The selected language will be announced prior to pre-registration for any semester in which it is given.

241. Language in Native America. (M) Buckley.

This course is an introduction to linguistic perspectives on the languages native to the Americas (their nature and distribution, typological similarities and differences), with an emphasis on North America. The diverse languages of this region will be examined from the point of view of particular linguistic phenomena, such as phonology, morphology, and syntax; and in addition we will study their historical development and their place in culture, society, and thought.

247. Structure of American Sign Language. Fisher/Santorini. Prerequisite(s): Ling 001 or permission of instructor(s).

This course covers the linguistic structure of American Sign Language (ASL), including its phonology (articulatory features, phonological constraints, nonmanuals), morphology (morphological constraints, compounds, incorporation, borrowing), and syntax (syntactic categories, basic phrase structure, common sentence types). Also discussed are the topics of classifiers and deixis. In keeping with the comparative perspective of linguistic theory, parallels and differences between ASL and other (primarily spoken) languages are pointed out where appropriate. Historical and sociolinguistic issues are addressed where they are relevant to elucidating linguistic structure.

Though the course focuses on ASL, it necessarily touches on issues concerning

sign languages more generally, notably the possible effects of modality (sign vs. speech) on linguistic structure and the implications of the signed modality for general linguistics.

Although the course does not presuppose knowledge of ASL, it does require acquaintance with basic concepts of linguistics.

250. Introduction to Syntax. (B) Santorini.

This course is an introduction to current syntactic theory, covering the principles that govern phrase structure (the composition of phrases and sentences), movement (dependencies between syntactic constituents), and binding (the interpretation of different types of noun phrases). Although much of the evidence discussed in the class will come from English, evidence from other languages will also play an important role, in keeping with the comparative and universalist perspective of modern syntactic theory.

252. Logical Analysis of Language. (M) Clark.

Everyone seems to think that language and thought are somehow intimately related. But what, exactly, is the relationship? For some people, language and thought are identical, so that pre-linguistic creatures are completely incapable of thought. This course examines language as an instrument to send and receive information. In part I, we will start with a computational approach to the problem of how an information agent would extract and use information from language. That is, we will take language to be an encoding of a mental content. The course considers some of the classic position papers on artificial intelligence and then moves on to develop a compositional account of computing meanings based on categorial grammar. We will, in addition, discuss some of the leading ideas in the theory of artificial neural nets and concept formation, particularly prototype theory.

In part II, we will focus on compositional theories of meaning; we will pay particular attention to categorial grammar, developing a strictly compositional theory of the encoding. In this section, we will develop some ideas from dynamic semantics and pragmatic theories of presupposition and implicature. In part III, we will explore reasons for supposing that meaning is largely social and not purely a question of mental content. This will lead us to a critical consideration of linguistic relativity, the idea that language can influence thought.

255. Formal Semantics and Cognitive Science. (M) Schwarz. NOTE TO PSYCHOLOGY MAJORS: Ling 255 can be counted towards the 'Additional Psych Courses', as specified in the Undergraduate Handbook. NOTE TO COGNITIVE SCIENCE MAJORS: Ling 255 counts towards Concentration 3: Language and Mind.

This course provides an introduction to the study of meaning in natural language. The first part of the course introduces a formal perspective on meaning in terms of truth conditions as well as the basic analytical tools necessary for this, primarily building on set theory and logic. The main part of the course covers a range of empirical investigations of phenomena related to meaning using experimental methods from psycholinguistics. Topics include a selection of issues on the semantics-pragmatics interface, such as conversational implicatures, presuppositions, reference resolution and perspective taking, and quantifier scope. Students will carry out a class project, possibly in groups, to develop (and, if possible, carry out) an experimental study of meaning-related phenomena of their own. Relevant tools for experimental design and the implementation of such studies will be introduced along the way. This provides students with the opportunity to engage in a scientific investigation of their own early on in their undergraduate career in a domain that is easily accessible and yet central to the general enterprise of the cognitive sciences.

270. Language Acquisition. (M) Yang.

An introduction to language acquisition in children and the development of related cognitive and perceptual systems. Topics include the nature of speech perception and the specialization to the native language; the structure and acquisition of words; children's phonology; the development of grammar; bilingualism and second language acquisition; language learning impairments; the biological basis of language acquisition; the role in language learning in language change. Intended for any undergraduate interested in the psychology and development of language.

SM 300. Tutorial in Linguistics. (A)

Legate. Prerequisite(s): Senior status or permission of the instructor. Majors only. This tutorial allows students to deal in a concentrated manner with selected major topics in linguistics by means of extensive readings and research. Two topics are studied during the semester, exposing students to a range of sophisticated linguistic questions.

301. Conference. (C)

An independent study for majors in linguistics.

SM 302. (LING502) Linguistic Field Methods. (M) Buckley/Legate.

Prerequisite(s): Ling 230 and Ling 250.

Instruction and practice in primary linguistic research, producing a grammatical sketch and a lexicon through work with a native-speaker consultant and some reference materials. Consultant work is shared with LING 502.

310. History of the English Language. (A) Ringe/Kroch.

This course traces the linguistic history of English from its earliest reconstructable ancestor, Proto-Indo-European, to the present. We focus especially on significant large-scale changes, such as the restructuring of the verb system in Proto-Germanic, the intricate interaction of sound changes in the immediate prehistory of Old English, syntactic change in Middle English, and the diversification of English dialects since 1750.

354. Language and Game Theory. (M) Clark.

This course is an introduction to game-theoretic pragmatics. It focuses on aspects of meaning that follow from rational, strategic decision making. The course covers an introduction to the theory of games with an emphasis on coordination games and cooperation. We develop a game theoretic account of truth conditional semantics using zero-sum games. We then cover Gricean implicature; focal points and coordination; polysemy vs homophony; and a game account of reference tracking and pronoun interpretation.

380. (LING580) Introduction to Semantics. (A) Schwarz. Prerequisite(s): Ling 250.

This course provides an introduction to formal semantics for natural language. The main aim is to develop a semantic system that provides a compositional interpretation of natural language sentences. We discuss various of the aspects central to meaning composition, including function application, modification, quantification, and binding, as well as issues in the syntax-semantics interface. The basic formal tools relevant for semantic analysis, including set theory, propositional logic, and predicate logic are also introduced.

398. Senior Thesis. (C) Staff.

404. Morphological Theory. (M)

Embick.

This course will explore some issues concerning the internal structure of words. After a brief introduction to some basic terms and concepts, we will discuss the interaction of morphology with phonology. We will look both at how morphology conditions phonological rules and how phonology conditions morphology. Then we will turn to the interaction of syntax and morphology. We will look at some problems raised by inflectional morphology, clitics and compounds. The main requirement for the class will be a series of homework exercises in morphological analysis and a short paper at the end of the semester.

SM 411. Old English. (M) Kroch.

The main purpose of this course is to teach students to read Old English ("Anglo-Saxon"), chiefly but not exclusively for research in linguistics. Grammar will be heavily emphasized; there will also be lectures on the immediate prehistory of the language, since the morphology of Old English was made unusually complex by interacting sound changes. In the first eight weeks we will work through Moore and Knott's "Elements of Grammar" and learn the grammar; the remainder of the term will be devoted to reading texts.

440. Pidgins and Creoles. (H)

The origins and development of pidgins (languages of intercommunication that have evolved for practical reasons in situations of trade, conquest, or colonization, and spoken as second or auxiliary languages) and creoles (languages with native speakers that have developed from previous pidgins); relations between creoles and other languages; implications of creole studies for general theories of language and language change.

SM 449. Language and Computation. (M) Yang.

The computational study of natural language and its implications for linguistic theories. Topics include finite state tools, computational morphology and phonology, grammar and parsing, computational models of language learning in children and machines.

450. Languages in Contact. (I)

Multilingualism from a societal, individual, and linguistic point of view. The different types of contacts between populations and between individuals which give rise to multilingualism. Second-language acquisition and the problem of the "critical age." Cognitive and cultural aspects of

multilingualism; applications to the teaching of languages. "Bidialectalism." Code-switching (alternation), interference and integration: the mutual influences of languages in contact. Political and social aspects of multilingualism.

SM 470. (AFRC262, AFST260, FOLK470, LALS260) Narrative Analysis. (M)

The course will develop our understanding of narrative structure on the basis of oral narratives of personal experience, told by speakers from a wide range of geographic backgrounds and social classes. It will link the principles governing oral narratives to the narratological examination of myth, literature and film by Propp, Greimas, Prince, Chatman, and others. The principles that emerge from the study of oral narrative will be re-examined in literary narrative, including Scandinavian, Greek and Hebrew epics, medieval romances, film, and modern novels, with attention to the differences between vernacular, literary and academic style. The class will then consider the work of psychologists on how narratives are remembered and understood, based on the causal network theory of Trabasso, and apply these principles to narratives written to teach children to read, particularly those designed to reflect the cultural and linguistic framework of African American children.

Graduate Courses

SM 500. Research Workshop. (A)
Embick.

This course is intended for advanced graduate students who are interested in developing a research paper. Each student will present his or her topic several times during the semester as the analysis develops, with feedback from the instructor and other students to improve the organization and content of the analysis. The goal is an end product appropriate for delivery at a national conference or submission to a journal.

SM 502. (LING302) Linguistic Field Methods. (M) Buckley/Legate.
Prerequisite(s): LING 530 and Ling 550.

Instruction and practice in primary linguistic research, producing a grammatical sketch and a lexicon through work with a native-speaker consultant and some reference materials. Consultant work is shared with LING 302. Each student will write a final paper on some aspect of the language.

503. (LING230) Sound Structure of Language. (B) Noyer.

An introduction to articulatory and acoustic phonetics; phonetic transcription; basic concepts and methods of phonological analysis.

505. Research Topics. (C)

A reading course on specialized topics in linguistics. Arranged by instructor.

510. Introduction to Historical and Comparative Linguistics. (A) Ringe.

Synchronic and diachronic systems. Analogic processes. Semantic change. Effects of contact. Internal reconstruction. Comparative method and reconstruction.

511. Language Variation & Change. (B) Tammenga. Prerequisite(s): LING 510 or equivalent.

Speech communities as a focus for the understanding of language evolution and change: language variation in time and space. The relationship between language structure and language use; between language change and social change. Populations as differentiated by age, sex, social class, race, and ethnicity, and the relationship of these factors to linguistic differentiation.

SM 515. Dynamics of Language. (C)
Yang. Prerequisite(s): Ling 510.

This course introduces the tools, techniques, as well as current research on the approach to language as a dynamical system, which seeks to fruitfully integrate linguistic theory, psycholinguistics, corpus linguistics, and historical linguistics through the means of mathematical modeling. Topics include: string processing, dynamical systems and stability, stochastic processes, mathematical models of population dynamics, and dynamical models of language learning, processing, and change.

520. Introduction to Phonetics. (A)
Lieberman/Kuang. Prerequisite(s): An introductory course in linguistics, or consent of instructor.

Speech: its linguistic transcription, its quantitative physical description, and its relationship to the categories and dimensions of language structure and use. The physical basis of speech: acoustics, vocal tract anatomy and physiology, hearing and speech perception, articulation and motor control. Phonetic variation and change. Prosody: stress, intonation, phrasing speech rate. Phonetic instrumentation, the design and interpretation of phonetic experiments, and

the use of phonetic evidence in linguistic research, with emphasis on computer techniques. Introduction to speech signal processing. Speech technology: introduction to speech recognition, text-to-speech synthesis, speech coding. This course will emphasize the phonetics of natural speech, and its connections to issues in other areas of linguistics and cognitive science.

L/L 521. Introduction to Phonetics II. (B) Kuang/Lieberman. Prerequisite(s): LING 520.

This is a methodology course, which focuses on how to conduct phonetics research using very large speech corpora. Topics include scripting and statistical techniques, automatic phonetic analysis, integration of speech technology in phonetics studies, variation and invariability in large speech corpora, and revisiting classic phonetic and phonological problems from the perspective of corpus phonetics.

525. (CIS 558) Computer Analysis and Modeling of Biological Signals and Systems. (A) Lieberman.

A hands-on signal and image processing course for non-EE graduate students needing these skills. We will go through all the fundamentals of signal and image processing using computer exercises developed in MATLAB. Examples will be drawn from speech analysis and synthesis, computer vision, and biological modeling.

530. Phonology I. (A) Noyer.
Prerequisite(s): LING 503 or equivalent.

First half of a year-long introduction to the formal study of phonology. Basic concepts in articulatory phonetics; the distribution of sounds (phonemes and allophones); underlying and surface forms, and how to relate them using both ordered-rule and surface-constraint approaches. The survey of theoretical topics in this term includes distinctive features (context, organization, underspecification); the autosegmental representation of tone; and the theory of phonological domains and their interaction with morphological and syntactic constituency. Emphasizes hands-on analysis of a wide range of data.

531. Phonology II. (B) Buckley.
Prerequisite(s): LING 530.

Second half of a year-long introduction; continues LING 530. Topics to be surveyed include syllable structure and moraic theory; the prosodic hierarchy; the properties and representation of geminates; templatic and prosodic morphology; reduplication and emergence of the

unmarked; and metrical phonology (properties of stress, foot typology, and issues of constituency). Emphasizes hands-on analysis of a wide range of data.

SM 538. Computational Methods in Linguistic Research. (M) Staff.

This course aims to provide students with the knowledge and skills needed to use computational techniques to facilitate linguistic research. It introduces the computer representation of linguistic data, the construction of linguistic databases, ways of searching for and extracting information of interest, and ways of generating useful displays of the results. Topics covered include the representation of text on computers (multilingual character encoding, mark-up schemes, means of converting among representations); regular expressions and their use in searching; context free grammars; basic parsing techniques; properties and uses of databases; approaches to annotation; and sorting as a tool for searching and organizing data.

545. (COGS501, PSYC501) Mathematical Foundations for Language and Communication Sciences I. (D) Liberman.

This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.

546. (PSYC646) Mathematical Foundations of Language Communication II. (D) Liberman.

This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.

SM 548. Proof Theoretic Foundations of Linguistic Structure. (A) Clark.

This course covers the fundamentals of proof theory and logic as they apply to linguistics. The notion of a well-formed

derivation is fundamental to all flavors of formal linguistics and all sub-disciplines of linguistics-phonology, morphology, syntax and semantics. It rests, ultimately, on axiomatic systems developed by logicians to encode the process of valid formal reasoning. We will place a particular emphasis on constructive methods and, where appropriate, develop connections with parsing theory, automatic theorem proving and computational semantics. Time permitting, we will consider some introductory topics in substructural logic-systems that encode some proper sub-part of first order logic. These systems have proven very important in planning, theorem proving, dynamic logic and computational linguistics. The course is intended as a preparation for Linguistics 553 (Formal Semantics I). It includes a review of the propositional and predicate calculus before introducing tableaux and resolution systems, unification, axiomatic systems, natural deduction and sequent calculi. The latter two systems are particularly relevant for grammar formalisms like phrase structure grammars, TAGs and Categorical Grammar.

549. (CIS 477) Mathematical Techniques in Natural Language Processing. (A) Joshi.

Basic concepts of set theory, relations and functions, properties of relations. Basic concepts of algebra. Grammars, languages, and automata-finite state grammars, regular expressions, finite state transducers, context-free grammars and pushdown automata. Context-sensitive grammars-string context sensitivity and structural context-sensitivity. Mildly context-sensitive grammars. Turingmachines. Grammars and deductive systems, parsing as deduction. Stochastic grammars. The course will deal with these topics in a very basic and introductory manner, i.e., the key ideas of the proofs and not detailed proofs will be presented. More importantly, throughout the course plenty of linguistic examples to bring out the linguistic relevance of these topics will be discussed.

550. Syntax I. (A) Kroch.

A general introduction at the graduate level to the analysis of sentence structure. The approach taken is that of contemporary generative-transformational grammar.

551. Syntax II. (B) Legate.

Prerequisite(s): LING 550 or permission of instructor.

The second half of a year-long introduction to the formal study of natural language syntax. Topics to be covered include grammatical architecture; derivational

versus representational statement of syntactic principles; movement and locality; the interface of syntax and semantics; argument structure; and other topics. The emphasis is on reading primary literature and discussing theoretical approaches, along with detailed case-studies of specific syntactic phenomena in different languages.

SM 556. Historical Syntax. (M) Kroch. Prerequisite(s): LING 551 or the equivalent.

Introduction to the study of the syntax of languages attested only in historical corpora. The course will cover methods and results in the grammatical description of such languages and in the diachronic study of syntactic change.

SM 560. The Study of the Speech Community: Field Methods. (C)

For students who plan to carry out research in the speech community. Techniques and theory derived from sociolinguistic studies will be used to define neighborhoods, enter the community, analyze social networks, and obtain tape-recorded data from face-to-face interviews. Students will work in groups and study a single city block.

SM 562. Quantitative Study of Linguistic Variation. (I) Tamminga.

Prerequisite(s): LING 560 and either STAT 500 or STAT 501 (or permission of instructor).

This course provides students with the opportunity to hone their statistical, computational, and organizational skillsets while conducting original linguistic research on data gathered in continuing fieldwork in the speech community. Topics include forced alignment and vowel extraction, auditory and automated variable coding, the application of linear and logistic regression, and techniques for effective data visualization.

SM 563. Sound Change in Progress. (M) Prerequisite(s): LING 520.

The study of current sound changes in the speech community through instrumental means. Causes of linguistic diversity and consequences for speech recognition.

568. (LING368) Dialect Geography. (M) Tamminga.

This course traces the origins and characteristics of regional dialects. Beginning with a survey of the traditional dialectology literature beginning in the 19th century, we will discuss the influences of social, political, and physical geography on language change. We will then move on to examine the foundations of North

American English dialect regions and the large-scale language changes that underlie their development. Students enrolled in 368 will complete a final project on American English accents; students enrolled in 568 will write an original research paper on a non-English dialect topic of their choosing.!

SM 570. Developmental Psycholinguistics. (B) Yang.

The generative literature on language acquisition has produced many accurate and insightful descriptions of child language, but relatively few explicit accounts of learning that incorporate the role of individual experience into the knowledge of specific languages. Likewise, the experimental approach to language development has identified processes that could provide the bridge between the data and the grammar, but questions remain whether laboratory findings can sufficiently generalize to the full range of linguistic complexity. This course is an overview of research in language acquisition with particular focus on the important connection between what children know and how they come to know it.

575. Mental Lexicon. (M) Yang.

An investigation of the psychological representations and processing of words. Topics include: the extraction of words from speech; lexical access and production; the induction of morphological and phonological regularities in word learning; decomposition of morphologically complex words; frequency effects in morphological processing; storage vs. computation in the lexicon; the past tense debate; morphological change. This course makes extensive use of linguistic corpora. Students will also be familiarized with experimental design issues in the psycholinguistic study of the lexicon.

580. (LING380) Semantics I. (A)

Schwarz. Prerequisite(s): Ling 550. Corequisite(s): Ling 550.

This course provides an introduction to formal semantics for natural language. The main aim is to develop a semantic system that provides a compositional interpretation of natural language sentences. We discuss various of the aspects central to meaning composition, including function application, modification, quantification, and binding, as well as issues in the syntax-semantics interface. The basic formal tools relevant for semantic analysis, including set theory, propositional logic, and predicate logic are also introduced.

581. Semantics II. (B) Schwarz.

Prerequisite(s): Ling 551. Corequisite(s): Ling 551.

The first part of the course expands the system from LING 580 to include intensional contexts. In particular, we discuss analyses of modals, attitude verbs, and conditionals, as well as the scope of noun phrases in modal environments. The second part of the course discusses a selection of topics from current work in semantics, such as the semantics of questions, tense and aspect, donkey anaphora, indefinites, genericity, degree constructions, events and situations, domain restriction, plurality and focus.

590. Linguistic Pragmatics I. (A) Staff.

Prerequisite(s): LING 550 or permission of instructor.

This course is the first of a two-term introduction to linguistic pragmatics, the branch of linguistics whose goal is to provide a formal characterization of discourse competence, i.e. of what people know when they "know" how to use (a) language. Among the topics investigated are: The Cooperative Principle, conversational and conventional implicature, speech acts, reference, and presupposition.

SM 591. Linguistic Pragmatics II. (B)

Staff. Prerequisite(s): LING 590.

This course is the second of a two-term introduction to linguistic pragmatics. Among the topics investigated are: given/new information, definiteness/indefiniteness, topic/comment, Centering Theory, discourse structure, and the functions of syntax.

595. Game Theoretic Pragmatics. (M)

Clark.

A great deal of linguistic meaning can be explained if we conceive of language as being a signaling system used by rational agents. Game theory provides an explicit mathematical account of rational, strategic interaction. This course will lay out the fundamentals of game theory, evolutionary game theory and multi-agent systems necessary to develop a theory of "radical pragmatics." We will discuss game theoretic models of implicature; presupposition and accommodation; reference tracking; scalar implicature as well as a number of other phenomena.

SM 596. Pragmatics Workshop. (A)

Clark.

SM 603. Topics in Phonology. (M)

Buckley/Noyer. Prerequisite(s): LING 530-531.

Topics are chosen from such areas as featural representations; syllable theory; metrical structure; tonal phonology; prosodic morphology; interaction of phonology with syntax and morphology.

SM 604. Topics in Discourse Analysis. (C) Staff. Prerequisite(s): LING 550 and LING 590 or permission of instructor.

Selected topics in discourse and pragmatics, e.g. reference, presupposition, functions of syntax.

SM 608. Topics in Semantics and Pragmatics. (M) Clark/Schwarz.

SM 610. (GRMN602) Seminar in Historical and Comparative Linguistics. (C) Ringe.

Selected topics either in Indo-European comparative linguistics or in historical and comparative method.

SM 615. Comparative Indo-European Grammar. (E) Ringe.

A survey of phonology and grammar of major ancient Indo-European languages and the reconstruction of Proto-Indo-European. A knowledge of at least one ancient Indo-European language is required.

SM 616. Comparative Indo-European Grammar II. (C) Ringe.

A survey of phonology and grammar of major ancient Indo-European languages and the reconstruction of Proto-Indo-European. A knowledge of at least one ancient Indo-European language is required.

SM 620. Topics in Phonetics. (M) Liberman/Kuang.

SM 630. Seminar in Morphology. (M) Noyer/Embick. Prerequisite(s): LING 530.

Readings in modern morphological theory and evaluation of hypotheses in the light of synchronic and diachronic evidence from various languages.

SM 640. Formal Semantics and Mathematical Linguistics. (B) Clark.

Advanced readings in formal semantics and discrete and continuous models of linguistic behavior.

SM 650. Topics in Natural-Language Syntax. (C) Kroch/Legate. Prerequisite(s): LING 551 or permission of instructor.

Detailed study of topics in syntax and semantics, e.g., pronominalization, negation, complementation. Topics vary from term to term.

SM 653. Topics in the Syntax-Semantics Interface. (A) Kroch.

Topics in the Syntax-Semantics Interface

SM 656. Seminar in Historical Syntax. (M) Kroch.

This course analyzes several well documented syntactic changes in the European languages with the tools of modern grammatical and quantitative analysis. The focus is on the competition between forms and systems as in the loss of the verb-second constraint in English and French and the competition between head initial and head final word orders in the several West Germanic languages.

SM 660. Research Seminar in Sociolinguistics. (M) This course will have different topics each term.

Students approaching the dissertation level will explore with faculty frontier areas of research on linguistic change and variation. Topics addressed in recent years include: experimental investigation of the reliability of syntactic judgments; the development of TMA systems in creoles; transmission of linguistic change across generations. The course may be audited by those who have finished their course work or taken for credit in more than one year.

SM 662. Topics in Experimental Sociolinguistics.

SM 670. Topics in the Cultural Evolution of Language. Roberts.

Readings in the cultural evolution of language. This encompasses research on the contribution of processes of cultural change to the emergence of language in the human species, the emergence of new languages, and language change viewed as a cultural-evolutionary process. There will be an emphasis on research employing empirical methods, particularly experimentation. Otherwise focus varies from term to term.

999. Independent Study and Research. (C) Student must submit brief proposal for approval. May be repeated for credit.

Language Courses

071. American Sign Language I. (C) Staff. Offered through the Penn Language Center.

Introduction to learning and understanding American Sign Language (ASL); cultural values and rules of behavior of the Deaf community in the United States. Includes receptive and expressive readiness activities; sign vocabulary; grammatical structure; facial expressive, body movement, gestures signs; receptive and expressive fingerspelling; and deaf culture.

072. American Sign Language II. (C) Staff. Prerequisite(s): LING 071 or Permission of the Instructor. Offered through the Penn Language Center.

Increased communication skill in American Sign Language (ASL); cultural values and behavioral rules of the deaf community in the U.S.; receptive and expressive activities; sign vocabulary; grammatical structure; receptive and expressive fingerspelling and aspects of Deaf culture.

073. American Sign Language III. (C) Staff. Prerequisite(s): LING 072 or permission of instructor. Offered through the Penn Language Center.

Expanded instruction of American Sign Language (ASL). Receptive and expressive activities; sign vocabulary; grammatical structure; receptive and expressive fingerspelling; narrative skills, cultural behaviors; and aspects of Deaf culture. Abstract and conversational approach.

074. American Sign Language IV. (C) Staff. Prerequisite(s): LING 073 or permission of instructor. Offered through the Penn Language Center.

Increases the emphasis on more abstract and challenging conversational and narrative range. Includes receptive and expressive readiness activities; sign vocabulary; grammatical structure; receptive and expressive fingerspelling; various aspects of Deaf culture and cultural behavior rules.

075. American Sign Language V. (C) Staff. Prerequisite(s): LING 074 or permission of instructor. Offered through the Penn Language Center.

This is an advanced ASL course in which students expand their conversational and narrative range. While receptive readiness activities continue to be an important part of the class, the emphasis moves toward honing expressive sign skills through narrative presentation and ASL-only class discussions. Various aspects of Deaf

culture and cultural behavior rules will be incorporated into the course. A large component of the course is a unit on Deaf history in which students read and discuss major events and famous deaf people via readings, film, class lectures and discussions, and other outside resources.

SM 076. Deaf Literature, Performance, Art, and Film. (B)

Draganac-Hawk. Prerequisite(s): Ling 074 and prior language experience or permission from instructor.

This course is an advanced/conversational ASL course that explores several key topics related to Deaf culture and the Deaf experience's influence on literature (both written and signed), theatre, fine and visual arts, and film—both Deaf and hearing directed and acted. Using only ASL in class, students learn about various perspectives and approaches to each of the themes and topics of the course. Some questions to explore and answer in this course will be: What is Deaf Literature? The Deaf Lens: What is it? How is it different from a hearing perspective on film? How is Deafness expressed differently in each of the arts discussed in this course? Analysis and discussion will come from readings as well as viewings of various types of Deaf arts.

077. ASL/Deaf Studies - ABCS. Fisher. Prerequisite(s): Ling 078 and permission from instructor.

For this course, students will attend Pennsylvania School for the Deaf on a weekly basis where they will participate in and contribute to the school community via tutoring or other mutually agreeable activities. Students will also have formal class on a weekly basis with discussions and activities centering on reflection of community experiences through linguistic as well as cultural lenses. Additionally, drawing from the required Linguistics and other ASL/Deaf Studies coursework, students will develop an inquiry question and conduct preliminary community-based research to analyze sociolinguistic variations of ASL and Deaf cultural attitudes, behaviors, and norms. Ongoing reflections and discussions—formal and informal—on Deaf cultural/theoretical topics drawing from readings as well as community experiences will be integral to the course experience. LING 078, Topics in Deaf Culture and permission from the instructor, are required for this course.

SM 078. Deaf Culture. (C) Fisher.

Prerequisite(s): LING 074 or permission from coordinator. Offered through Penn Language Center.

This course is an advanced/conversational ASL course that explores several key topics related to Deaf Culture. Using only ASL in class, students will read and discuss books, articles, and films related to the following topics: What is Deaf Culture?, The History of the Deaf American, Communication Issues and Pathological Perspectives on Deafness, Deafness and Education, Deaf/Hearing Family Dynamics, and Deaf Theatre, Arts, and Poetry. Vocabulary, grammar, and idioms related to the topics will be presented through direct instruction as well as through the course of class conversation.

081. Beginning Irish Gaelic I. (D)

Blyn-LaDrew. Offered through the Penn Language Center.

Irish Gaelic, spoken primarily on the west coast of Ireland, is rich in oral traditions, song, poetry and literature. Knowledge of this language provides a foundation to understanding Celtic folklore and linguistics and also enhances the study of Anglo-Irish literature and history. The first-year course will include reading, conversation, listening and speaking.

082. Beginning Irish Gaelic II. (C)

Blyn-LaDrew. Prerequisite(s): LING 081 or permission from instructor. Offered through Penn Language Center.

083. Intermediate Irish Gaelic I. (C)

Blyn-LaDrew. Prerequisite(s): LING 082 or equivalent. Offered through the Penn Language Center.

085. Advanced Irish Gaelic I. (C)

Blyn-LaDrew. Prerequisite(s): LING 084 or equivalent. Offered through Penn Language Center.

086. Advanced Irish Gaelic II. (C)

Blyn-LaDrew. Prerequisite(s): LING 085 or equivalent. Offered through the Penn Language Center.

This course will emphasize reading of literary texts, and advanced aspects of grammar, composition, and conversation.

088. History of the Irish Language.

(L) Blyn-LaDrew. Offered through the Penn Language Center.

From downloadable lists of computer terminology in Irish to Ogam inscriptions chiseled in stone in the 5th century, the history of the Irish language reflects the history of the people themselves. This course outlines the language's changes through time and emergence from the

unwritten Celtic, proto-Celtic, and Indo-European speech of its ancestors.

Beginning in the modern period, when the very status of Irish as a living language has been hotly debated, the course will look backwards at the Celtic cultural revival of the late 19th century, the impact of the famine, nationalism, colonialism, the arrival of Christianity and the Roman alphabet, and the position of Irish within the Celtic branch of the Indo-European language family. Term papers may be based on fieldwork in the Irish-American community, or research. Audio and visual resources will supplement the lectures. Knowledge of Irish Gaelic is not required.

091. American Sign Language III/IV.

(M) Staff. Prerequisite(s): LING072 or by permission of instructor. Corequisite(s): Expanded instruction of ASL. Offered by Penn Language Center; permit from Penn Language Center required for admission.

Expanded instruction of American Sign Language (ASL). Includes receptive and expressive readiness activities; sign vocabulary; grammatical structure; receptive and finger-spelling; narrative skills; cultural behaviors; and aspects of Deaf culture. Increases the emphasis on more abstract and challenging conversational and narrative range. Abstract and conversational approach.

**LOGIC, INFORMATION
AND COMPUTATION
(AS) {LGIC}**

L/R 010. (PHIL005) Ideas in Logic and Computation. (B) Weinstein. This is a Formal Reasoning course.

This course provides an introduction to some of the fundamental ideas of logic and computation. Topics will include truth functional logic, quantificational logic, and logical decision problems.

210. (MATH340) Applied Mathematics of Information and Computation I. (A) Scedrov, Towsner. Prerequisite(s): MATH 114 or MATH 115 or permission of the instructor.

The first semester of a two-semester course designed to introduce students to a range of mathematical subjects useful in the analysis

of information and computation. This course will treat topics chosen from set theory, combinatorics, graph theory, and number theory.

220. (MATH341) Applied Mathematics of Information and Computation II. (M) Scedrov, Towsner. Prerequisite(s): LGIC 210 or permission of the instructor.

The second semester of a two-semester course devoted to mathematical subjects useful in the analysis of information and computation. Topics will be drawn from automata theory, formal languages, computability and complexity, and information theory.

310. (MATH570, PHIL410, PHIL412) Logic I. (C) Scedrov, Towsner, Weinstein. Prerequisite(s): Math 371 or Math 503.

Propositional logic: semantics, formal deductions, resolution method. First order

logic: validity, models, formal deductions; Godel's completeness theorem, Lowenheim-Skolem theorem: cut-elimination, Herbrand's theorem, resolution method. Computability: finite automata, Turing machines, Godel's incompleteness theorems. Algorithmically unsolvable problems in mathematics.

SM 320. (MATH571, PHIL412) Logic II. (C) Scedrov, Towsner, Weinstein. Prerequisite(s): LGIC 310 or permission of the instructor.

The second semester of a two-semester course on the fundamental results and techniques of mathematical logic. Topics will be drawn from model theory, proof theory, recursion theory, and set theory. Connections between logic and algebra, analysis, combinatorics, computer science, and the foundations of mathematics will be emphasized.

MANAGEMENT (WH) {MGMT}

000. Study Abroad.

L/R 100. Leadership and Communication in Groups. This course is exclusively reserved for Wharton undergraduate students.

Through the process of action, reflection, and experimentation, and application, MGMT 100 aims to develop your leadership, teamwork, and communication skills. The course provides many occasions to strengthen your ability to exercise leadership through service, to speak and write persuasively, and to work collaboratively with a diverse group of individuals. Through the course of the term, you will have a heightened sense of your individual strengths and opportunities for growth.

Eleven sections of approximately 60 students are scheduled each year (nine in the fall; two in the spring). Attached to each section are six recitations. Your recitation determines your project team. Whether you are in lecture participating in role plays or simulations, in recitation doing impromptu speeches, or out in the field working on your project, Management 100 is highly interactive and participative. The hallmark of the course is experiential learning.

Over the course of the year, Management 100 teams complete nearly 70 field projects. In the fall, freshmen participate in community service projects, a good number supplied by the United Way; in the spring, upper level transfer and dual degree students work on consulting projects vetted by Wharton's Small Business Development Center (SBDC).

L/R 101. Introduction To Management. (C) Prerequisite(s): None.

This course is an introduction to the critical management skills involved in planning, structuring, controlling and leading an organization. It provides a framework for understanding issues involved in both managing and being managed, and it will help you to be a more effective contributor to organizations that you join. We develop a "systems" view of organizations, which means that we examine organizations as part of a context, including but not limited to environment, strategy, structure, culture, tasks, people and outputs. We consider how managerial decisions made in any one of these domains affect decisions in each of the others.

104. (SOC1105) Industrial Relations and Human Resource Management. (C) Prerequisite(s): MGMT 100 & MGMT 101.

This undergraduate core course introduces students to a combination of basic concepts and timely topics around work and employment. As such, it is divided into two main sections and two quarters within each of those. The first main section deals with micro-level work issues, while the second main section deals with macro-level work issues. Within each of those sections, the first quarter focuses on basic concepts, while the quarter section deals with more applied topics.

111. Multinational Management. Prerequisite(s): MGMT 100 & MGMT 101.

Multinational management is the study of the international corporation and the global political and economic environment. This course provides an introduction to the more advanced offerings. It covers the historical origins of the multinational corporation, the economics of trade, money and investment in the world economy, and the policies and behavior of governments and international organizations. We place considerable emphasis in understanding the national and historic origins of the international firm, as well as on current issues regarding emerging economies and shifts in the political economy of global markets.

205. Multinational Corporate Strategies. (B) Prerequisite(s): MGMT 100, MGMT 101, & MGMT 111.

This course focuses on the creation of competitive advantage in the multinational firm. It examines the nature of global competition by exploring the characteristics of global versus non-global industries and firms. We also explore different types of international strategy and structure and examine the specific challenges of managing in multiple countries and markets. Finally, we consider the strategic allocation of resources along the value chain and the role of strategic alliances as a crucial element of an effective global strategy.

208. Globalization and International Political Economy. (B)

Globalization and International Political Economy is an upper level undergraduate course designed to provide the background necessary to understand globalization and the changes taking place in the international political-economy. The course objective is to help students develop a conceptual framework that will provide an understanding of the current international political-economic environment, provide a

basis for thinking about the fundamental changes which are now taking place, and to build a solid foundation to which new material can be added throughout the students' careers.

Format: Class discussions will be interactive and structured to encourage maximum student participation.

Requirements: Take home mid-term exam, a final course paper of 10-15 pages and two shorter (1-2 page papers) dealing with the readings for the day. Students will not be allowed to enroll after the third class session.

209. The Political Environment of the Multinational Firm.

Are you well prepared to manage or analyze business challenges and competitive threats in a variety of political and social environments? For example, what should you do to dissuade or counter an individual critic armed with a camera phone a YouTube account? Or a decentralized grassroots organization that seemingly pops up overnight, appears to have no single leader or headquarters, and yet is quite successful in capturing media attention? Or a government official who because of a tight reelection campaign or an internal challenge from a populist general turns on you? Lone individuals, small activist groups and unexpected political shifts have done extensive damage to the reputations - and value - of multinationals in recent years. And yet most companies don't plan for, or even think about, investing in building the kinds of solid relationships with community leaders, governments, and other key players that can help them avoid such crises and, when necessary, draw upon their reservoir of stakeholder capital to respond quickly and decisively when a challenge or threat emerges. This semester-long class provides an integrative perspective towards the management of these risks and opportunities.

It highlights that better assessment of stakeholder opinion, understanding of how stakeholders impact firm value and of how to infuse stakeholder relationships with trust to unlock that value are increasingly critical elements of a firm's long-term success, particularly in emerging markets. Firms must also focus on continual improvement in their stakeholder engagement, reinforcing their actions with strategic communications and via organizational culture. The course will give students a combination of practical tools and the latest academic thinking in the emerging field of corporate diplomacy.

211. Competitive Strategy. (A)

Prerequisite(s): MGMT 100 & MGMT 101 and some knowledge of microeconomics is suggested. The course will be discussion oriented and based largely on case materials and mini-lectures.

This is an advanced course in competitive strategy. The course will apply the tools of industrial organization economics and game theory to examine the strategic decisions that managers make. We will examine those decisions concerning pricing, capacity investment, advertising, new product introductions, and research and development. Emphasis will be placed on the strategic interaction among rival sellers. In particular we will look at the various methods of entry deterrence and strategic commitment. The course will attempt to integrate traditional economic models with case study materials.

212. (MGMT810) Social

Entrepreneurship. (B) Prerequisite(s): MGMT 230 Recommended.

This is a course on creating a business to attack a social problem and thereby accomplish both social impact and financial sustainability. For this course, social entrepreneurship is defined as entrepreneurship used to profitably confront social problems. This definition therefore views social entrepreneurship as a distinct alternative to public sector initiatives. The basic thesis is that many social problems, if looked at through an entrepreneurial lens, create opportunity for someone to launch a venture that generates profits by alleviating that social problem. This sets in motion a virtuous cycle - the entrepreneur is incented to generate more profits and in so doing, the more the profits made, the more the problem is alleviated. Even if it is not possible to eventually create a profit-making enterprise, the process of striving to do so can lead to a resource-lean not-for-profit entity.

Creating a profitable social entrepreneurship venture is by no means a simple challenge. It involves deeply understanding how to prioritize a multi-mission entity, how to analyze and engage traditional agencies, how to formulate political strategies to develop influence and social assets in target beneficiary markets, how to forge negotiating strategies for securing resources, how to capture publicity for the enterprise, and generally how to minimize resource requirements. Students in teams will develop a PowerPoint deck proposing a social enterprise start up using the tools and principles of the course.

Format: Lecture, discussion, live case studies (discussions of progress reports of

students own ventures), nation-boosting presentations.

223. Business Strategy. Prerequisite(s): MGMT 100 & 101; seniors and juniors that have completed introductory courses in finance, marketing, and accounting.

This course encourages students to analyze the problems of managing the total enterprise in the domestic and international setting. The focus is on the competitive strategy of the firm, examining issues central to its long- and short-term competitive position. Students act in the roles of key decision-makers or their advisors and solve problems related to the development or maintenance of the competitive advantage of the firm in a given market. The first module of the course develops an understanding of key strategic frameworks using theoretical readings and case-based discussions. Students will learn concepts and tools for analyzing the competitive environment, strategic position and firm-specific capabilities in order to understand the sources of a firm's competitive advantage. In addition, students will address corporate strategy issues such as the economic logic and administrative challenges associated with diversification choices about horizontal and vertical integration. The second module will be conducted as a multi-session, computer-based simulation in which students will have the opportunity to apply the concepts and tools from module 1 to make strategic decisions.

The goal of the course is for students to develop an analytical tool kit for understanding strategic issues and to enrich their appreciation for the thought processes essential to incisive strategic analysis. This course offers students the opportunity to develop a general management perspective by combining their knowledge of specific functional areas with an appreciation for the requirements posed by the need to integrate all functions into a coherent whole. Students will develop skills in structuring and solving complex business problems.

225. (MGMT714) Value Creation and Value Capture in American Business History. Prerequisite(s): MGMT 100 & MGMT 101.

This course concerns the history of capitalism in America viewed from the perspective of the people who operated (and in some cases owned) the firms. Its focus is on the activities of value creation and value capture and on how evolving opportunities and selection pressures have conditioned the historic development of competition, strategic analysis and initiatives, organizational structures,

merger-and-acquisition activity, entrepreneurship, and the like. Accounting and control are also part of the story: the course in fact considers issues arising in a variety of different management disciplines and shows off their interrelationships. The maintenance (or otherwise) of value capture over the cycle and over time is a running theme.

The course has a narrative element (running from Franklin's days through the early twenty-first century) but its deeper purpose is to give students some idea of how to think about the future evolution of firms and industries. It proceeds through a consideration of actual business decisions and performance in a series of challenging and otherwise interesting moments in the evolution of the American business environment. The materials are unusual for the Wharton School—they are often case-like and when possible draw on documents contemporary to the decisions such as correspondence, memoranda, minutes of meetings, old newspaper and magazine stories, and eyewitness accounts. They require thoughtful preparation. This course is much more focused on the students than many and a successful experience of its demands that the students both engage with the materials and take an active role in the class discussion. The largest single element in the grading is a substantial term paper on a topic agreeable to both the student and the instructor. For more information, please contact the instructor: raff@wharton.upenn.edu.

230. Entrepreneurship. Prerequisite(s): Completion of all business fundamental courses and second semester sophomore standing. Ideally you will also have mastered the concepts of business policy.

MGMT 230 integrates the material introduced in business fundamental courses and applies it to the design and evaluation of new ventures. The purpose of this course is to explore the many dimensions of new venture creation and growth and to foster innovation and new business formations in independent and corporate settings. The course addresses both a theoretical perspective on venture initiation and the application of writing an actual business plan.

In this course you are asked to get out of the habit of being a receiver of ideas, facts, concepts and techniques, and get into the habit of generating ideas, identifying problems, analyzing and evaluation alternatives, and formulating workable action plans, thus putting textbook knowledge into practice. Students will get this hands-on experience in the following ways: Through the formation and ongoing

work of venture teams that will design a comprehensive business development plan for a particular start-up company. Teams are expected to utilize the tools and analytical approaches discussed in class to their venture. Through lectures and class discussions that are designed to familiarize students with the many dimensions of entrepreneurship and new venture initiation. Class format varies throughout the course: in some class sessions, there will be a lecture on specific topics; other sessions will consist of case discussions of a particular topic or a discussion of the business concepts that students are developing; guest speakers also lead and participate in some class sessions.

231. (MGMT806) Entrepreneurial Venture Initiation. (B) Prerequisite(s): MGMT 230 (recommended).

This advanced course on entrepreneurship focuses on developing a validated opportunity into a venture that is ready for seed financing and/or launching the product or service. Participants in the workshop must previously have developed a validated opportunity, either in a previous course or through independent efforts. Students may participate as a team of up to three people. Ideally, participants are committed to pursuing their opportunity commercially, or at least to seriously explore that possibility. The workshop provides a practical guidance for developing the product or service, forming the entity, raising capital building the team, establishing partnerships, and sourcing professional services. After completing the course, you will be "pitch ready" - whether submitting to campus venture competitions or to outside investors. Most coursework is focused on applying concepts and frameworks to project tasks in developing the venture.

Format: Readings, discussion, and developing an implementation plan for a real venture.

233. (MGMT833) Strategies and Practices of Family-Controlled Companies. (B) Prerequisite(s): None.

This course is designed for those persons who desire to understand the distinct strategies and practices of family-controlled companies and family wealth creation. It will focus on stakeholder decision making; financial and resource driven options for long-run competitiveness, organizational structures, management team issues; strategic planning from a resource-based perspective; transition planning for the corporate entity, family dynamics and communication issues; and leadership empowerment. The course is intended for

those who plan to consult or provide professional services to family-controlled companies and for those planning a career in a family firm.

Format: The class is structured around topical lectures with frequent utilization of case studies. There will be in-class discussion, as well as on-site and off-site project work time.

234. (MGMT875) International Comparative Management: The Challenge of Diversity and Integration. (B) This course is comprised of lectures with case discussions, group and individual short papers and quizzes on the readings.

This course focuses on the comparative institutional environments in which business, government, and society interact. It provides students with a set of conceptual tools and analytical frameworks to navigate the complexities and ambiguities of the global economy. It provides an understanding of how to identify, measure and interpret the economic, social, political and cultural factors that shape regulatory policy, business strategy and market outcomes. It does so by traversing a rich empirical terrain that cuts across developing and industrialized countries, and is especially attentive to change over time. The course is deeply interdisciplinary and brings insights from economics, political science, sociology, anthropology, geography and history.

235. Technological Innovation and Entrepreneurship. (A) Prerequisite(s): MGMT 100 & MGMT 101; open to juniors and seniors in Engineering, Applied Science, and Wharton; others only with special permission. All students must receive instructor's permission. Graduating M&T students receive priority enrollment.

The focus of this course is on analysis of the issues and options which must be faced in developing a successful technological venture and on the creation of a winning business plan. Particular attention is directed to the identification of technology-based venture opportunities, evaluation of technical feasibility and commercial potential, and planning for successful commercialization.

237. Management of Technology. (B) Prerequisite(s): MGMT 100 & MGMT 101; this section is based on seniority and open to Wharton students.

The course is designed to meet the needs of the future managers, entrepreneurs, consultants and investors who must analyze and develop business strategies in technology-based industries. The emphasis

is on learning conceptual models and frameworks to help navigate the complexity and dynamism in such industries. This is not a course in new product development or in using information technology to improve business processes and offerings. We will take a perspective of both established and emerging firms competing through technological innovations, and study the key strategic drivers of value creation and appropriation in the context of business ecosystems.

238. Organizational Behavior. Prerequisite(s): MGMT 100 & MGMT 101.

Management 238 is an organizational behavior course, examining individual, interpersonal, and group effectiveness at work. Topics range from decision-making, motivation, and personality to networks, influence, helping, leadership, teamwork, and organizational culture. The learning method is heavily experiential, with a focus on applying key principles to the human side of management in role-play exercises, simulations, and group projects in local organizations. This course requires the instructor's permission. Registration is by application only; Penn In Touch requests will not be processed. The link to the application form will be available on the Management Department's website: <https://mgmt.wharton.upenn.edu/programs/undergraduate>, beginning March 14, 2016. The deadline for applications is March 25, 2016 at 5 PM. Students will be notified after April 1, 2016 regarding the status of their application.

239. Organization Design.

240. Group Dynamics.

Section 001 -- Open to all Juniors and Seniors. This course develops your knowledge and skills for designing, leading, and consulting with teams in organizations. The goals are to provide both the conceptual understanding and the behavioral skills required to improve team effectiveness. This course makes use of analytic and reflective writing, peer feedback and coaching, simulations, and an intensive field project with a real team in the Philadelphia area. There are four kinds of teams that are the focus of your study: teams of which you've been a member in the past; your 240 Team, with three or four other classmates; a team outside of 240 that your 240 Team will observe, analyze, and report on -- your Host Team; and a team you expect to be on in the future. The primary case material for applying course concepts (learned from readings and lectures) will be these teams you know

from direct observation and experience. Expect to leave this course with new knowledge of how to diagnose and intervene -- as leader, member, or consultant -- to improve the performance sustainability, and impact on the members of any team. Prerequisite: Junior standing or above.

Special registration for MGMT 240 Section 001: Enrollment in this section of MGMT 240 is by permission of the instructor, Professor Stew Friedman. To apply for admission, please contact him via email: friedman@wharton.upenn.edu.

Section 002 -- Open only to MGMT 100 Teaching Assistants. Permission of instructor is required. This course develops your knowledge and skills for designing, leading, and consulting with teams in organizations. The goals are to provide both the conceptual understanding and the behavioral skills required to improve team effectiveness. This course makes use of readings, analytic and reflective writing, assessments, peer feedback and coaching, simulations, and your services as a MGMT 100 Teaching Assistant (TA). There are four kinds of teams that are the focus of your study: teams of which you've been a member in the past; your 240 Team, with two or three other classmates; the team of Wharton freshmen in your MGMT 100 section for whom you serve as TA; and a team you expect to be on in the future. The primary case material for applying course concepts (learned from readings and lectures) will be these teams you know from direct observation and experience. Expect to leave this course with new knowledge of how to diagnose and intervene -- as leader, member, or consultant -- to improve the performance, sustainability, and impact on the members of any team. Prerequisite: Sophomore standing or above and assignment as MGMT 100 TA.

241. Knowledge for Social Impact: Analyzing Current Issues & Approaches. Klein, Katherine.

Recent technological changes have raised awareness of the magnitude and devastating long-term effects of poverty, food insecurity, limited and unequal access to education, and other social issues. Coupled with growing awareness of these issues is the emerging sense that traditional government programs and charities may be unable to solve these problems - at least, not alone. What may be needed are new strategies - strategies borne of (a) a deep understanding of the issues; (b) interdisciplinary collaboration; and (c) access to business knowledge, frameworks, and resources.

This course is designed to provide the information, strategies, examples, and analytical mindset to make students more rigorous, insightful, and effective in analyzing social ills and crafting potential solutions. Together, a cross-disciplinary group of undergraduate students, including students in Wharton, the College, and other Penn Schools, will examine the nature and extent of two pressing social problems - food insecurity and barriers to post-secondary education - and current approaches to solving these problems.

After an introduction to the social impact landscape and review of frameworks and tools for social impact, we will meet with researchers, business leaders, and non-profit leaders to learn what's not working, what is working, and what might work even better.

247. (LGST208, MGMT795) Employment Law.

249. Mergers and Acquisitions.

Prerequisite(s): MGMT 100 & MGMT 101.

This course explores the role of mergers and acquisitions and alternative methods of corporate development in advancing the strategies of operating business. Emphasis is on the way companies use acquisitions to alter business mixes; seize opportunities in new products, technologies and markets; enhance competitive positioning; adjust to changing economics, and promote value-creating growth. Although the course will emphasize strategic acquisitions, it also will explore leveraged buy-outs and hostile financial acquisitions as well as their influence on corporate buyers. Please note that you must fulfill the prerequisites in order to enroll in this class. Requests for this course should be submitted to: MGMT-Courseinfo@wharton.upenn.edu.

251. Consulting to Growth Companies. (A) Prerequisite(s): Junior or Senior Standing Recommended.

This course offers students a unique opportunity to develop consulting skills and entrepreneurial expertise by working as consultants to thriving entrepreneurial ventures in the Philadelphia area. This capstone course combines both fieldwork and class work and allows students to apply knowledge and skills acquired through other course work to real world issues that must be addressed by operating companies. An understanding of characteristics producing rapid entrepreneurial growth and skills related to effective communications and management of a business relationship are emphasized.

Format: Team term consulting assignment, lectures, case analysis, and small group discussions.

264. Venture Capital and Entrepreneurial Management. (A)

Prerequisite(s): Junior or Senior Standing Recommended.

This course focuses on venture capital management issues in the context of a high-growth potential start-up company. The course is motivated by rapid increases in both the supply of and demand for private equity over the past two decades. The topic is addressed from two distinct perspectives: issues that relate to the demand for private equity and venture capital (the entrepreneur's perspective) on the one hand, and issues that relate to the supply of capital (the investor's perspective) on the other. As well, we will address management issues that relate to how the VC and the entrepreneur work together once an investment has been made, compensation issues, and governance issues in the privately held venture capital backed company.

Format: Case/discussion format, supplemented by lectures and guest speakers.

Requirements: Classroom participation, written case assignments, late midterm.

Materials: Required coursepack and supplemental recommended reading.

265. Culture of Technology: Culture & Institutions of the Tech Sector-- Bridging Research and Practice. Vice Dean Lori Rosenkopf.

Academics, students and practitioners alike are fascinated by the culture of tech sector-- its people, practices, and organization. In this course we explore this sector using a combination of academic research papers and practitioner involvement. Each class session will be devoted to discussion of a single research article, during which we will be joined via Telepresence technology by a Wharton alum from the tech sector whose expertise is relevant to the paper topic. Therefore, the learning objectives of this half-credit course are to: 1) Understand the managerial, organizational, and regional institutions that characterize the tech sector, with particular emphasis on the case of Silicon Valley 2) Bridge research and practice by critical analysis of academic research in conjunction with practitioner input 3) Forge connections with tech sector practitioners, particularly with our west coast alumni base. Registration is by application only; Penn In Touch requests will not be processed. Enrollment is limited. The link to the application form

will be available on the Management Department's website:

<https://mgmt.wharton.upenn.edu/programs/undergraduate>, beginning March 21, 2016 through midnight on April 3, 2016.

Students will be granted permits to enroll after a review of the applications (no later than April 8). The deadline to apply is Sunday, April 3, 2016.

266. (MGMT766) Family Enterprise Mgmt.

This class will examine the causes and consequences of the creation of family fortunes, with a focus on the practical implications for family decision-making. We will discuss psychological characteristics associated with the typically entrepreneurial creators of family wealth; with their children, whose childhood development takes place in the context of growing businesses and accumulating wealth; and with their grandchildren and beyond, whose childhood development occurring in the context of established and often very public wealth, to build a comprehensive view of the interplay between family dynamics and economic decision making. Note that this class focus will be on behavioral aspects of family dynamics in a wide range of decision settings, rather than on management of an operating business per se. While this class will be particularly relevant to individuals aspiring to create their own family fortunes or whose ancestors have already done so, it will also be useful for individuals interested in foundation management, non-profit fund-raising or business catering to the very wealthy such as asset management and luxury retail.

272. Power and Politics in Organizations.

The purpose of this course is to introduce you to the power dynamics in organizations. The course is designed so that you will learn concepts that are useful for understanding, analyzing, and harnessing power. But beyond discovering ways to extend your own power, influence and political skill in organizations, we will also uncover lessons about ways in which power and politics can blind you, and how to navigate situations in which you are up against powerful people. Using a range of theoretical and business articles, cases, exercises, assessments and simulations, we will extract a variety of lessons about power and politics in organizations. Topics include political skill, influence, issue selling, change management, networks, hierarchy, political conflict, corruption, coping with intolerable bosses, speaking up, redemption, and downsizing.

276. Cultivating Judgment Skills: Forecasting in Business Politics.

This course will explore the diverse ways in which scholars and practitioners have defined "good judgment." And it will introduce students to practical tools for assessing and improving judgment, with special emphasis on probabilistic reasoning. Students will have the opportunity both to fine-tune their personal judgment skills as well as to master and then weave together insights from several bodies of scientific knowledge, including frequentist and Bayesian statistics, psychological work on judgment and choice, group dynamics, organizational behavior and political science (key concepts discussed in Tetlock's (2015) book "Superforecasting").

We will focus on bottom-line accuracy in sizing up real world problems. Class work will be primarily exercises, including working as an individual and in teams. You will have opportunities to forecast on a wide range of political, business, and macro-economic questions, which we will use as feedback tools to help you calibrate your judgment. Assessments include a weekly concept test and a final group presentation aimed to help you improve your judgment. The goal is to launch you on the lifelong process of learning how much trust you should place in your judgments of trustworthiness.

Finally, note this has been approved by the Curriculum Committee effective 11/11/15.

288. (MGMT788) Managing and Competing in China. (A)

This course provides an examination of some of the largest business firms in the Peoples Republic of China, acquainting students with the governance and management (both management structure and management teams) of some of the largest and best known Chinese firms. Students will also become acquainted with the capabilities and liabilities of Chinese firms and their strategic options. Tools needed to assess the investment potential of Chinese firms will be provided, and students will have an opportunity to do original research on issues of governance and management of Chinese firms.

291. (LGST206, OIDD291) Negotiations. Prerequisite(s): MGMT 100 & MGMT 101.

This course includes not only conflict resolution but techniques which help manage and even encourage the valuable aspects of conflict. The central issues of this course deal with understanding the behavior of individuals, groups, and

organizations in conflict management situations. The purpose of this course is to understand the theory and processes of negotiations as it is practiced in a variety of settings. The course is designed to be relevant to the broad spectrum of problems that are faced by the manager and professional including management of multinationals, ethical issues, and alternative dispute resolutions. Cross listed w/ LGST 206 & OPIM 291.

292. (LGST292, OIDD292) Advanced Negotiation.

353. Wharton Field Challenge.

Weigelt and Staff.

<http://fap.wharton.upenn.edu/353> Students Info.htm

610. Foundations of Teamwork and Leadership.

Management 610 is the first core course in the MBA Program and it cannot be waived. The first week of the fall term (in August) is dedicated to this formative and foundational experience. This course focuses on developing students' knowledge and skill set for teamwork and leadership. It is meant to be an intense immersion experience that draws strongly on the pedagogy of the Wharton Teamwork and Leadership Simulation, a team-based, highly interactive simulation that was custom-designed specifically to allow students to experience the core concepts they learn in this class. The three goals of this course are for students to learn: 1. Leadership behaviors: how to enact the skills that contribute to a team's effective performance. 2. Team dynamics: how to be an effective team member, as well as how to best design work teams; 3. Organizational awareness: understanding organizational culture.

Format: A custom-designed Wharton-only simulation is paired with course sessions to deliver a unique learning experience. Classes will include experiential learning combined with debriefings, lectures, readings, class discussion and personal and group performance feedback. This course reflects the realities that informal leadership occurs in teams on an ongoing basis, that being a good team player is a part of leadership, and that many of one's early experiences with leadership will occur while working on teams. Because of the team-based nature of this course, and time intensive nature of this experience, attendance is mandatory for ALL five sessions of this class.

NOTE: Credit-bearing, core coursework begins with the MGMT610:

Foundations of Teamwork and Leadership course.

611. (LAW 517) Managing Established Enterprises.

The management of large, established enterprises creates a range of multi-facet challenges for the general manager. A general manager needs to understand the internal workings of a firm, how to assess and create a strategy, and how to take into account increasing, globalization. While these issues are distinct, they are very much intertwined. As a result, this course will provide you with an integrated view of these challenges and show you that effective of an established enterprise requires a combination of insights drawn from economics, sociology, psychology and political economy.

612. (LAW 516) Management of Emerging Enterprises.

Emerging enterprises, the focus in this course, are small, new, fast-growing organizations. Their founders and managers face multifaceted challenges: how to assess the competitive position of their business model and develop a strategy; how to develop the internal organizational structure, culture, and policies for selecting and managing employees; and how to pursue global opportunities. We cover these challenges in separate modules on strategy, human and social capital, and global issues. The human and social capital module covers classic management challenges of aligning interests of the individual and the organization; managing individual psychological needs and social influences; and developing employee capabilities that provide competitive advantage. Also covered are unique challenges that young organizations face, i.e. building an effective culture; recruiting, selecting, and retaining talent; building systematic approaches to motivating employees; coping with the stresses of rapid growth; and leveraging the benefits (and avoiding the liabilities) of the founder's powerful imprint.

The strategy module covers fundamental issues central to the competitiveness of the enterprise. Because the strategy field is broad, MGMT 612 emphasizes topics and frameworks that are most relevant for younger firms, such as innovation, disruption, managing resource constraints, and building capabilities. However, a key insight of the module is the importance of seeing the playing field from the perspective of the competition. Thus, by the end of this section, students will have a robust grounding in strategy that

will allow them to succeed, whether their career path leads to a Fortune 100 firm or a garage start up.

The global module covers the emerging firm's decision about when (and whether) to internationalize. This decision must address which foreign markets to enter; the mode of entry; the sequence of moves to develop capabilities; what organizational form to choose; where to establish HQ; and how to adapt to the unique economic and institutional features of different markets. In all these issues, the emphasis is on how young, resource-constrained firms can position themselves profitably in globally competitive markets. For the final project, student teams provide integrated analysis across the modules for an emerging enterprise of their choice.

766. (MGMT266) FAMILY ENTERPRISE MGMT.

This class will examine the causes and consequences of the creation of family fortunes, with a focus on the practical implications for family decision-making. We will discuss psychological characteristics associated with the typically entrepreneurial creators of family wealth; with their children, whose childhood development takes place in the context of growing businesses and accumulating wealth; and with their grandchildren and beyond, whose childhood development occur in the context of established and often very public wealth, to build a comprehensive view of the interplay between family dynamics and economic decision making. Note that this class focus will be on behavioral aspects of family dynamics in a wide range of decision settings, rather than on management of an operating business per se. While this class will be particularly relevant to individuals aspiring to create their own family fortunes or whose ancestors have already done so, it will also be useful for individuals interested in foundation management, non-profit fund-raising or business catering to the very wealthy such as asset management and luxury retail.

Format: The class will consist of a mixture of lectures, case discussions and class exercises. Submission of several written case studies, and a final examination are required.

772. Power and Politics in Organizations.

The purpose of this course is to introduce you to the power dynamics in organizations. The course is designed so that you will learn concepts that are useful for understanding, analyzing, and

harnessing power. But beyond discovering ways to extend your own power, influence and political skill in organizations, we will also uncover lessons about ways in which power and politics can blind you, and how to navigate situations in which you are up against powerful people. Using a range of theoretical and business articles, cases, exercises, assessments, and simulations, we will extract a variety of lessons about power and politics in organizations. Topics include political skill, influence, issue selling, change management, networks, hierarchy, political conflict, corruption, coping with intolerable bosses, speaking up, redemption, and downsizing.

776. Cultiv Judgment Skills.

Prerequisite(s): None (but an interest in links between business and politics is helpful).

A world-class poker player defined the difference between serious players and amateurs this way: serious players know the difference between 40-60 and 60-40 propositions. In other words, serious players are well calibrated (skilled at distinguishing what they know from what they don't). This course gives you chances to explore how well calibrated you are in a low-risk setting. The course should appeal to students with interests in strategy, international business, political-risk analysis, and the managerial challenges of maximizing the judgmental accuracy of key personnel. The class will pit its wits against competitors in a global-forecasting tournament sponsored by the Intelligence Advanced Research Projects Agency (IARPA) - as well as design forecasting exercises around your individual career and business plans. Key challenges include: (a) learning to translate "interesting questions" into "testable propositions," (b) getting into the habit of translating vague hunches into probability metrics and making good use of feedback on how well calibrated you are, (c) applying tools for enhancing accuracy, (d) making solo forecasts - and exploring methods of making team forecast more than the sum of their individual-contributor parts.

896. DECISION MAKING LDRSHIP.

SM 920. Sem in Hum Res Research.

This class is designed to give students an overview of the fundamental topics and arguments in the area of employment, how different social science paradigms consider employment topics, and some the new and emerging approaches to this topic.

**MARKETING
(WH) {MKTG}**

L/R 101. Introduction to Marketing. (C) Niedermeier. Recitation Section 220 is reserved only for Wharton Scholars. The objective of this course is to introduce students to the concepts, analyses, and activities that comprise marketing management, and to provide practice in assessing and solving marketing problems. The course is also a foundation for advanced electives in Marketing as well as other business/social disciplines. Topics include marketing strategy, customer behavior, segmentation, market research, product management, pricing, promotion, sales force management and competitive analysis.

211. (MKTG711) Consumer Behavior. (C) Reed, Cutright. Prerequisite(s): MKTG 101. This course is concerned with how and why people behave as consumers. Its goals are to: (1) provide conceptual understanding of consumer behavior, (2) provide experience in the application of buyer behavior concepts to marketing management decisions and social policy decision-making; and (3) to develop analytical capability in using behavioral research.

212. (MKTG712) Data and Analysis for Marketing Decisions. (A) Prerequisite(s): MKTG 101, STAT 101. Students are highly encouraged to take statistics in the semester immediately preceding this course. (Former course title Marketing Research.). Firms have access to detailed data of customers and past marketing actions. Such data may include in-store and online customer transactions, customer surveys as well as prices and advertising. Using real-world applications from various industries, the goal of the course is to familiarize students with several types of managerial problems as well as data sources and techniques, commonly employed in making effective marketing decisions. The course would involve formulating critical managerial problems, developing relevant hypotheses, analyzing data and, most importantly, drawing inferences and telling convincing narratives, with a view of yielding actionable results.

221. (MKTG721) New Product Management. (C) Armstrong. Prerequisite(s): MKTG 101; NOTE: Students may not take this course and MKTG 262 (Former MKTG 232) for credit. 0.5 c.u. One-half term. Examination of the marketing aspects of products or services exclusive of their promotion, pricing or distribution. Focuses on decisions regarding product introduction, positioning, improvements, and deletion, and the tools available for making these decisions.

224. (MKTG724) Advertising Management. (C) Williams. Prerequisite(s): MKTG 101 or permission of instructor; NOTE: Students may not take this course and MKTG 265 (formerly MKTG 235) for credit. 0.5 c.u. One-half term. Immersion in the advertising development process and examination of the practice of advertising. Focuses on decisions regarding advertising objectives, copy selection, budget setting and media selection.

225. (MKTG725) Principles of Retailing. (C) Prerequisite(s): MKTG 101. 0.5 c.u. One-half term. This course explores the domain of retailing; marketing to the final consumer. Emphasis is placed on marketing aspects of retailing not covered in other courses: retail strategy, merchandising, vendor relations and location.

227. (MKTG727) Digital Marketing and Electronic Commerce. (C) Bell. Prerequisite(s): MKTG 101. 0.5 c.u. One-half term. Students may not take both MKTG 227 and the full semester version of this course, MKTG 270 (formerly MKTG230x) for credit. The effect of the Internet and related technologies on business and social institutions is more profound than that of any prior invention, including the printing press and the internal combustion engine. Furthermore, marketing plays a key role in shaping the modern consumption-led economies fueled by these technologies. MKTG 227 provides a research-based and framework-driven approach to understanding digital marketing and electronic commerce.

The course is organized around three sections and utilizes relevant theory, empirical analysis, and practical examples to develop the key learning points. Part I presents will establish the behavioral foundations for understanding electronic commerce and covers relevant phenomena and theory from economics, marketing, and

related fields. Part II examines ecommerce business models and institutions including Internet retail, subscription commerce, curated commerce and so on. Part III focuses on how digital marketing fosters ecommerce business growth. In particular, we survey, critique, and evaluate common digital marketing methods and tactics.

Guests from the entrepreneur and investor communities participate, as appropriate (former and illustrative speakers include Pooja Batra (Bollywood Actress), Joe Cohen (Lore.com), Mike Cohen (Birchbox.com) and Rob Coneybeer (Shasta Ventures).

234. Idea Generation & the Systematic Approach for Creativity. (A) Rom Schrift. Prerequisite(s): MKTG101. Students may not take both MKTG 292 and MKTG 234x for credit. Experimental course for 2016-17.

The ability to solve problems creatively and generate change is a recognized standard of success and plays an important role in gaining a competitive advantage in many areas of business management. This course is designed to teach students several creative problem solving methodologies that complement other managerial tools acquired in undergraduate and graduate studies. The course offers students the opportunity to learn how to solve problems, identify opportunities, and generate those elusive ideas that potentially generate enormous benefits to organizations. The objectives of this course are to enhance the students' (a) creativity, (b) ability to innovate and (c) ability to identify, recruit, develop, manage, retain, and collaborate with creative people.

The course includes: 1. A review of the literature on creativity, creative people, innovation, and design as well as the leadership and management of creative people and innovation. 2. Hands on learning of approaches for generating creative ideas. Students will have the opportunity of implementing the techniques studied in class. 3. Applications of creativity to selected management domains - Approaches to the generation of creative options are not limited to the development of products and services or businesses, but can be applied to all areas of management, business, and life. The purpose of these sessions is to explore the applications of creative approaches to marketing, advertising, organizational design, negotiations, and other management challenges. 4. Integration - Both via individual assignments and a group project in which interdisciplinary teams of students generate a creative product/service/customer.

241. (MKTG741) Entrepreneurial Marketing. (C) Lodish, Lautman.

Prerequisite(s): MKTG 101; MKTG 212 (can take concurrently); students are discouraged from taking this course and MKTG 221 without the permission of the marketing undergraduate faculty advisor. 0.5 cu half credit course. (Former MKTG 281).

This course focuses on the real life marketing challenges involved in launching an entrepreneurial venture. The primary goal of the course will to provide a roadmap for students seeking to actively engage as entrepreneurs, investors or managers in the startup culture. Many of the entrepreneurial marketing principles studied in this course will be equally applicable to mid-size and larger companies seeking new approaches to drive top-line growth. The course will address how start-ups, early growth stage and more mature companies have used entrepreneurial marketing as an essential competitive weapon to grow their businesses by gaining customers, driving revenue, acquiring funding and recruiting A-level employees, advisors and directors. Students will form teams and select an idea/concept for an entrepreneurial venture, and by the conclusion of the course will have developed a fully fleshed out and testable marketing plan. Preferably, the selected venture will be one that one or more members of the team would consider implementing, should their plan prove feasible.

254. (MKTG754) Pricing Policy. (C)

Prerequisite(s): MKTG 101 and Sophomore standing. 0.5 c.u. One-half term. (Former MKTG 222) Students can not take both MKTG 254 and the full semester version of this course, MKTG 288, for credit.

The pricing decision process including economic, marketing, and behavioral phenomena which constitute the environment for pricing decisions and the information and analytic tools useful to the decision maker.

260. (LGST205, LGST805, MKTG760) Law of Marketing and Antitrust.

Prerequisite(s): MKTG 101. (Former MKTG 236).

See Legal Studies, LGST 205

265. Principles of Advertising. (C)

Prerequisite(s): MKTG 101. NOTE: Students should not take both MKTG 265 (full semester version) and MKTG 224 (mini course version), since credit will not be given for both courses. (Former MKTG 235).

This course focuses on advertising via all media - print, digital, video, TV, Internet, etc. Emphasis is placed on understanding the communication development process and consumer behavior (psychology), the measurement and evaluation of advertising effects, and developing appropriate media plans.

266. Marketing for Social Impact. (A)

Deborah Small. Prerequisite(s): MKTG 101 or instructor permission. Students may not take both MKTG 266 and MKTG 233 (the 0.5 cu version of the course) for credit.

Private and public sector firms increasingly use marketing strategies to engage their customers and stakeholders around social impact. To do so, managers need to understand how best to engage and influence customers to behave in ways that have positive social effects. This course focuses on the strategies for changing the behavior of a target segment of consumers on key issues in the public interest (e.g., health behaviors, energy efficiency, poverty reduction, fundraising for social causes). How managers partner with organizations (e.g., non-profits, government) to achieve social impact will also be explored.

270. (MKTG770) Digital Marketing, Social Media and E-Commerce. (B)

Berman, Bell. Prerequisite(s): MKTG 101. Students may not take both MKTG 270 and the half semester version of this course, MKTG 227 for credit. This course replaces experimental course MKTG 230x.

MKTG 270 explores the digital marketing environment from both a consumer and business perspective. The course provides an overview of various online business models and delves into digital advertising and social media marketing techniques and technologies. A mixture of case studies, guest speakers and assignments, including one that uses real advertising data, translates theory into practice. It is recommended that students enrolling in the course be comfortable using Excel and are knowledgeable in applying regression analysis techniques. Students who would prefer a less technical course may wish to take MKTG 227, Digital Marketing and Electronic Commerce, a half cu course offered by the department.

271. (MKTG771) Models for Marketing Strategy. (M)

Eliashberg. Prerequisite(s): MKTG 101, STAT 101 and some tolerance for expressing critical ideas in simple math.

In today's business environment, marketing executives are involved in complex decision-making and they become responsible for return on their marketing investments. The first objective of this course is to help participants become better executives. By exposing students to various analytical and computer-based tools, developed for solving marketing problems, it will help to prepare them for careers in industries such as consumer packaged goods, hi-tech, financial services, media and entertainment, pharmaceutical, consulting, and venture capital.

The course's main focus is on various existing models, such as models that predict the consumer's dynamic adoption of an innovative product. However, at some point in their career, students may find themselves facing business problems for which a model can assist in making decisions, but no existing model is available. Hence, the second objective of the course is to provide participants with critical skills necessary to evaluate new models to which they may be exposed by attending presentations or reading the literature. The models to be discussed in the class have been implemented and proven useful in a wide range of industries (e.g., business-to-consumers and business-to-business).

The course is not only about models, however. It also covers modeling needs. Some industries such as the media and entertainment or the pharmaceutical industries present unique problems and modeling needs. The third objective of the course is to expose participants to the nature and essence of such idiosyncratic problems as well as modeling needs in such industries. Overall, the course will make participants understand better critical marketing problems by analyzing them rigorously and will enhance their skills in either designing or evaluating models-based strategies.

277. (MKTG777) Marketing Strategy. (C)

Robertson. Prerequisite(s): MKTG 101.

Lectures, discussions, cases. This course views marketing as both a general management responsibility and an orientation of an organization that helps one to create, capture and sustain customer value. The focus is on the business unit and its network of channels, customer relationships, and alliances. Specifically, the course attempts to help develop knowledge and skills in the application of

advanced marketing frameworks, concepts, and methods for making strategic choices at the business level.

288. Pricing Strategies. (B) Zhang.
Prerequisite(s): MKTG 101. NOTE: Students may not take both MKTG 288 and MKTG 254 (former MKTG 222) for credit.

This course is designed to equip students with the concepts, techniques, and latest thinking on pricing issues, with an emphasis on ways in which to help a firm improve its pricing. The orientation of the course is about practice of pricing, not theory. We will focus on how firms can improve profitability through pricing, look at how firms set their prices and how to improve current practices to increase profitability. The first part of the course focuses on how to analyze costs, customers, and competitors in order to formulate proactive pricing strategies. The second part focuses on price promotions, price bundling, price discrimination, versioning, nonlinear pricing, pricing through a distribution channel, dynamic pricing, etc.

306. (MKTG806) Special Topics: Retail Merchandising. (A)
Prerequisite(s): MKTG 101; MKTG 225. 0.5 c.u., One-half term (Former MKTG 396).

This course provides a detailed introduction to the role of merchandising at various retailers, including apparel and other soft lines businesses, grocery stores, mass-merchandisers and "category killers". Selected topics may include product development, line planning, sourcing, product lifecycle, forecasting, planning and allocation, pricing and markdowns, and vendor relations.

309. (MKTG809) Special Topics: Experiments for Business Decision Making. (B) Prerequisite(s): MKTG 101 or faculty permission is required; STAT 101, STAT 431, or equivalent is recommended. (Former MKTG 269).

In the past decade, massive shifts in how companies interact with their customers have suddenly made field experiments an economically feasible way to learn about a variety of business questions such as what types of promotions are most effective, what products should be stocked at a store, how e-mail promotions should be designed, how sales staff should be compensated, etc. Many marketers engaged in online retailing, direct-marketing, online advertising, media management, etc. are rapidly embracing a "test and learn" philosophy and a number of platforms such as Google Website Optimizer, have been developed to facilitate rigorous field

experiments in the online environment. Just as with the quality revolution in manufacturing during the 1980s and 1990s, the rapid rise of the "test and learn" philosophy in marketing has created a huge demand for those who can design, field, and analyze marketing experiments.

Through this course, you will learn and practice a wide range of critical skills, from the statistical methods used to design and analyze experiments to the management and strategy required to execute an experiment and act on the results. Although the cases and examples will focus on marketing problems, the material covered can be applied in a number of other domains particularly operations management and product design.

350. Special Topics - Consumer Neuroscience. (B) Wes Hutchinson.
Prerequisite(s): None.

Basic neuroscience made steady progress throughout the 20th century with only small areas of application outside of medicine. Over the past 30 years, however, breakthroughs in measurement and computation have accelerated basic research and created major applications for business and technology. Currently, applications to marketing research and product development are experiencing explosive growth that has been met with both excitement and skepticism. This mini-course provides an overview of these developments. The course follows a straightforward theory/application format for each major area of cognitive neuroscience. On Tuesdays, the basics of neuroscience are covered along with a few illustrative applications. A key take-away from this part of the course is to gain the elementary scientific knowledge that is necessary to separate "neuro-reality" from "neuro-hype." On Thursdays, we cover application areas in greater detail. There are two general types of applications. First, there are applications of neuroscience in marketing research. Topics will range from well-known and widely used applications, such as eye-tracking measures in the lab and the field, to emerging methods and measures, such as mobile EEG, face reading algorithms, and fMRI predictors of market response.

Application areas include, packaging and shelf display, copy testing for television and print advertisements, video games, product usability studies, and simulators. Second, there are applications of neuroscience in the development of new products. Product development applications include wearables, physiological devices and apps, sensory

branding for foods and fragrances, pharmaceuticals and medical devices (especially prosthetic devices), and neuroscience-based "edutainment" designed to enhance cognitive functions. Special attention will also be paid to changes in brain anatomy and function over the lifespan. Key markets are children (mainly for enhancement products), seniors (mainly for remediation/restoration products), and working adults (both enhancement and remediation/restoration products). This course is self-contained and has no prerequisites. That said, students with some background in business, industrial design, psychology, or neuroscience are likely to find the material covered in this course complementary to the knowledge they already have.

399. (MKTG899) Independent Study. (C) Prerequisite(s): MKTG 212 and written permission of instructor and the department undergraduate advisor. Content arranged by project supervisor, 1.0 c.u.

476. (MKTG776, STAT476) Applied Probability Models for Marketing. (C) Fader. Prerequisite(s): A high comfort level with basic integral calculus and recent exposure to a formal course in probability and statistics such as STAT 430 is strongly recommended.

This course will expose students to the theoretical and empirical "building blocks" that will allow them to construct, estimate, and interpret powerful models of consumer behavior. Over the years, researchers and practitioners have used these models for a wide variety of applications, such as new product sales, forecasting, analyses of media usage, and targeted marketing programs. Other disciplines have seen equally broad utilization of these techniques. The course will be entirely lecture-based with a strong emphasis on real-time problem solving. Most sessions will feature sophisticated numerical investigations using Microsoft Excel. Much of the material is highly technical.

611. Marketing Management. (A) Williams, Kahn, Berger. Prerequisite(s): None. One half term. 0.5 cu.

This course addresses how to design and implement the best combination of marketing efforts to carry out a firm's strategy in its target markets. Specifically, this course seeks to develop the student's (1) understanding of how the firm can benefit by creating and delivering value to its customers, and stakeholders, and (2) skills in applying the analytical concepts and tools of marketing to such decisions as segmentation and targeting, branding,

pricing, distribution, and promotion. The course uses lectures and case discussions, case write-ups, student presentations, and a comprehensive final examination to achieve these objectives.

612. Dynamic Marketing Strategy. (C) Van den Bulte, Bradlow. Prerequisite(s): MKTG 611. One half term. 0.5 cu.

Building upon Marketing 611, the goal of this course is to develop skills in formulating and implementing marketing strategies for brands and businesses. The course will focus on issues such as the selection of which businesses and segments to compete in, how to allocate resources across businesses, segments, and elements of the marketing mix, as well as other significant strategic issues facing today's managers in a dynamic competitive environment.

A central theme of the course is that the answer to these strategic problems varies over time depending on the stage of the product life cycle at which marketing decisions are being made. As such, the PLC serves as the central organizing vehicle of the course. We will explore such issues as how to design optimal strategies for the launch of new products and services that arise during the introductory phase, how to maximize the acceleration of revenue during the growth phase, how to sustain and extend profitability during the mature phase, and how to manage a business during the inevitable decline phase.

613. Strategic Marketing Simulation. (B) Reibstein. Prerequisite(s): MKTG 611. 0.5 cu.

Building upon Marketing 611, Marketing 613 is an intensive immersion course designed to develop skills in formulating and implementing marketing strategies for brands and businesses. The central activity will be participation in a realistic integrative product management simulation named SABRE. In SABRE, students will form management teams that oversee all critical aspects of modern product management: the design and marketing of new products, advertising budgeting and design, sales force sizing and allocation, and production planning. As in the real world, teams will compete for profitability, and the success that each team has in achieving this goal will be a major driver of the class assessment.

The SABRE simulation is used to convey the two foci of learning in the course: the changing nature of strategic problems and their optimal solutions as industries progress through the product life cycle, and exposure to the latest analytic

tools for solving these problems. Specifically, SABRE management teams will receive training in both how to make optimal use of marketing research information to reduce uncertainty in product design and positioning, as well as decision support models to guide resource allocation.

711. (MKTG211) Consumer Behavior. (C) Reed. Prerequisite(s): Completion of MKTG 611. Format: Lectures and discussion, case analyses, presentations.(Former MKTG 773).

Marketing begins and ends with the customer, from determining customers' needs and wants to providing customer satisfaction and maintaining customer relationships. This course examines the basic concepts and principles in customer behavior with the goal of understanding how these ideas can be used in marketing decision making. The class will consist of a mix of lectures, discussions, cases, assignments, project work and exams. Topics covered include customer psychological processes (e.g., motivation, perception, attitudes, decision-making) and their impact on marketing (e.g., segmentation, branding, customer satisfaction). The goal is to provide you with a set of approaches and concepts to consider when faced with a decision involving understanding customer responses to marketing actions.

712. (MKTG212) Data and Analysis for Marketing Decisions. (C) Iyengar, Eliashberg. Prerequisite(s): MKTG 611; STAT 613 strongly recommended. Format: Lecture, discussion, and cases.(Former MKTG 756, Marketing Research).

Firms have access to detailed data of customers and past marketing actions. Such data may include in-store and online customer transactions, customer surveys as well as prices and advertising. Using real-world applications from various industries, the goal of the course is to familiarize students with several types of managerial problems as well as data sources and techniques, commonly employed in making effective marketing decisions. The course would involve formulating critical managerial problems, developing relevant hypotheses, analyzing data and, most importantly, drawing inferences and telling convincing narratives, with a view of yielding actionable results.

721. (MKTG221) New Product Management. (C) Prerequisite(s): MKTG 611. Format: Lectures, cases, simulations, class discussions, and guest speakers. (Former MKTG 753).

This course provides a total immersion in the new product development process - from sourcing ideas and innovation, through new product sales forecasting. The focus is on collective learning, what works, what doesn't, and why. While the primary focus is the new product development process within a corporate structure, some coverage is given to key issues surrounding start-ups.

724. (MKTG224) Advertising Management. (C) Prerequisite(s): Completion of MKTG 611; and MKTG 612, 613 or 622. (May be taken concurrently with MKTG 612, 613 or 622.). Format: Case discussions, in-class exercises, lectures, group projects, guest lectures by marketing professionals. (Former MKTG 755).

The purpose of this course is to provide students with an opportunity to learn and apply the major frameworks, theories, current research findings, principles and practices of effective advertising management as part of an Integrated Marketing Communications (IMC) program. By the end of this course, students should not only be familiar with a large body of advertising knowledge, but should also be able to apply this information to create and evaluate effective advertising strategies and tactics. The emphasis will be on: 1) understanding the psychology of customer motivation and persuasion; 2) crafting effective and creative messages; 3) making efficient selections and use of media; and 4) understanding metrics, all within the broader Integrated Marketing Communications perspective.

725. (MKTG225) Principles of Retailing. (C) Prerequisite(s): MKTG 611; and MKTG 612, 613 or 622; or permission of instructor. Format: Lecture and discussion, case analyses, and guest speakers. (Former MKTG 793).

This course provides an interdisciplinary overview of the retailing industry. Primary focus will be on the customer facing activities of retailers, including assortment planning, private-label development and the management of in-store operations, and the back-door activities (forecasting and supply chain management) that support customer interaction. In addition, current issues facing retailers, such as customer relationship management, industry consolidation and supplier relations, will be

explored. The course will also survey topics in finance, operations, information technology and real estate as they relate to retail.

727. (MKTG227) Digital Marketing and Electronic Commerce. (C) Bell.

Prerequisite(s): Completion of MKTG 611; and MKTG 612, 613 or 622. 0.5 c.u. One-half term (Former MKTG 784) Students may not take both MKTG 727 and the full semester version of this course, MKTG 730x or MKTG770 for credit.

The effect of the Internet and related technologies on business and social institutions is more profound than that of any prior invention, including the printing press and the internal combustion engine. Furthermore, marketing plays a key role in shaping the modern consumption-led economies fueled by these technologies. MKTG 727 provides a research-based and framework-driven approach to understanding digital marketing and electronic commerce.

The course is organized around three sections and utilizes relevant theory, empirical analysis, and practical examples to develop the key learning points. Part I presents will establish the behavioral foundations for understanding electronic commerce and covers relevant phenomena and theory from economics, marketing, and related fields. Part II examines ecommerce business models and institutions including Internet retail, subscription commerce, curated commerce and so on. Part III focuses on how digital marketing fosters ecommerce business growth. In particular, we survey, critique, and evaluate common digital marketing methods and tactics.

Guests from the entrepreneur and investor communities participate, as appropriate (former and illustrative speakers include Pooja Batra (Bollywood Actress), Joe Cohen (Lore.com), Mike Cohen (Birchbox.com) and Rob Coneybeer (Shasta Ventures).

733. Marketing for Social Impact. (A)

Deborah Small. Prerequisite(s): MKTG 611 or permission of instructor. Format: Lecture, class discussion, simulations, cases and guest lecturers.

Private and public sector firms increasingly use marketing strategies to engage their customers and stakeholders around social impact. To do so, managers need to understand how best to engage and influence customers to behave in ways that have positive social effects. This course focuses on the strategies for changing the behavior of a target segment of consumers on key issues in the public interest (e.g., health behaviors, energy efficiency, poverty

reduction, fund-raising for social causes). How managers partner with organizations (e.g., non-profits, government) to achieve social impact will also be explored.

734. Idea Generation and the Systematic Approach for Creativity. (A)

Rom Schrift. Prerequisite(s): None. Students may not take both MKTG 792 and MKTG 734 for credit.

The ability to solve problems creatively and generate change is a recognized standard of success and plays an important role in gaining a competitive advantage in many areas of business management. This course is designed to teach students several creative problem solving methodologies that complement other managerial tools acquired in undergraduate and graduate studies. The course offers students the opportunity to learn how to solve problems, identify opportunities, and generate those elusive ideas that potentially generate enormous benefits to organizations. The objectives of this course are to enhance the students' (a) creativity, (b) ability to innovate and (c) ability to identify, recruit, develop, manage, retain, and collaborate with creative people.

The course includes: 1. A review of the literature on creativity, creative people, innovation, and design as well as the leadership and management of creative people and innovation. 2. Hands on learning of approaches for generating creative ideas. Students will have the opportunity of implementing the techniques studied in class. 3. Applications of creativity to selected management domains - Approaches to the generation of creative options are not limited to the development of products and services or businesses, but can be applied to all areas of management, business, and life. The purpose of these sessions is to explore the applications of creative approaches to marketing, advertising, organizational design, negotiations, and other management challenges. 4. Integration - Both via individual assignments and a group project in which interdisciplinary teams of students generate a creative product/service/customer

741. (MKTG241) Entrepreneurial Marketing. (C) Lodish, Lautman.

Prerequisite(s): Completion of MKTG 611; and MKTG 612, 613 or 622; and MKTG 712; (May take MKTG 612, 613 or 622, and MKTG 712 concurrently); Students are discouraged from taking this course and MKTG 721 except with permission of an MBA adviser. Format: Guest speakers, lecture, class discussions, team project (Former MKTG 781).

This course focuses on the real life marketing challenges involved in launching an entrepreneurial venture. The primary goal of the course will to provide a roadmap for students seeking to actively engage as entrepreneurs, investors or managers in the startup culture. Many of the entrepreneurial marketing principles studied in this course will be equally applicable to mid-size and larger companies seeking new approaches to drive top-line growth. The course will address how start-ups, early growth stage and more mature companies have used entrepreneurial marketing as an essential competitive weapon to grow their businesses by gaining customers, driving revenue, acquiring funding and recruiting A-level employees, advisors and directors. Students will form teams and select an idea/concept for an entrepreneurial venture, and by the conclusion of the course will have developed a fully fleshed out and testable marketing plan. Preferably, the selected venture will be one that one or more members of the team would consider implementing, should their plan prove feasible.

754. (MKTG254) Pricing Policy. (C)

Raju, Zhang. Prerequisite(s): Completion of MKTG 611; and MKTG 612, 613 or 622. (May be taken concurrently with MKTG 612, 613 or 622.) OPIM 612 and STAT 613 are recommended. Format: Lecture and discussion.

The course provides a systematic presentation of the factors to be considered when setting price, and shows how pricing alternatives are developed. Analytical methods are developed and new approaches are explored for solving pricing decisions.

770. (MKTG270) Digital Marketing, Social Media and E-Commerce. (B)

Berman, Bell. Prerequisite(s): MKTG 611, and one of the following: MKTG 612 or MKTG 613. Students may not take both MKTG 770 and the half semester version of this course, MKTG 727 for credit. This course replaces experimental course MKTG 730x.

MKTG 770 explores the digital marketing environment from both a consumer and

business perspective. The course provides an overview of various online business models and delves into digital advertising and social media marketing techniques and technologies. A mixture of case studies, guest speakers and assignments, including one that uses real advertising data, translates theory into practice. It is recommended that students enrolling in the course be comfortable using Excel and are knowledgeable in applying regression analysis techniques. Students who would prefer a less technical course may wish to take MKTG 727, Digital Marketing and Electronic Commerce, a half cu course offered by the department.

771. (MKTG271) Models for Marketing Strategy. (M) Eliashberg. Prerequisite(s): Completion of: MKTG 611; and MKTG 612, 613 or 622; basic calculus; exposure to basic statistical analysis, and some tolerance for expressing critical ideas in simple math. Format: Evaluating marketing models; practicing with computer-based models and software; discussing case studies that describe modeling applications; group presentations of model-based marketing analysis and strategy.

In today's business environment, marketing executives are involved in complex decision-making and they become responsible for return on their marketing investments. The first objective of this course is to help participants become better executives. By exposing students to various analytical and computer-based tools, developed for solving marketing problems, it will help to prepare them for careers in industries such as consumer packaged goods, hi-tech, financial services, media and entertainment, pharmaceutical, consulting, and venture capital. The course's main focus is on various existing models, such as models that predict the consumer's dynamic adoption of an innovative product. However, at some point in their career, students may find themselves facing business problems for which a model can assist in making decisions, but no existing model is available. Hence, the second objective of the course is to provide participants with critical skills necessary to evaluate new models to which they may be exposed by attending presentations or reading the literature. The models to be discussed in the class have been implemented and proven useful in a wide range of industries (e.g., business-to-consumers and business-to-business).

The course is not only about models, however. It also covers modeling needs. Some industries such as the media and

entertainment or the pharmaceutical industries present unique problems and modeling needs. The third objective of the course is to expose participants to the nature and essence of such idiosyncratic problems as well as modeling needs in such industries. Overall, the course will make participants understand better critical marketing problems by analyzing them rigorously and will enhance their skills in either designing or evaluating models-based strategies.

775. Managing Customer Value. (B) Fader. Prerequisite(s): None. Format: Lecture and discussion.

As the concept of CRM becomes common parlance for every marketing executive, it is useful to take a step back to better understand the various different behaviors that underlie the development of successful CRM systems. These "behaviors" include customer-level decisions, firm actions, and the delicate but complex interplay between the two. Accordingly this course is comprised of four main modules.

We start with the discussion of customer profitability - focusing on the concepts of "customer lifetime value" and "customer equity". We will examine how to measure long-run customer profitability in both business-to-customer and business-to-business environments, and the uses of these measures as major components assessing overall firm valuation. Second, we move to the value that the firm provides to its customers - better understanding the true nature of customer satisfaction and its non-trivial relationship with firm profitability. Third, we examine each of the three main components of the firm's management of its customer base: customer acquisition, development, and retention - and the complex resource allocation task that must be balanced across them. Finally, we conclude with a discussion of various tactical and organizational aspects of customer relationship management.

776. (MKTG476, STAT476) Applied Probability Models in Marketing. (B) Fader. Prerequisite(s): Students must have a high comfort level with basic integral calculus, and recent exposure to a formal course in probability and statistics is strongly recommended. Format: Lecture, real-time problem solving.

This course will expose students to the theoretical and empirical "building blocks" that will allow them to develop and implement powerful models of customer behavior. Over the years, researchers and practitioners have used these methods for a wide variety of applications, such as new product sales forecasting, analyses of media

usage, customer valuation, and targeted marketing programs. These same techniques are also very useful for other types of business (and non-business) problems. The course will be entirely lecture-based with a strong emphasis on real-time problem solving. Most sessions will feature sophisticated numerical investigations using Microsoft Excel. Much of the material is highly technical.

777. (MKTG277) Marketing Strategy. (A) Wind. Prerequisite(s): Completion of MKTG 611; and MKTG 612 or 613 or 622. Format varies by instructor. Typically: case, lecture, group projects and class discussion. See syllabus.

This course views marketing as both a general management responsibility and an orientation of an organization that helps one to create, capture and sustain customer value. The focus is on the business unit and its network of channels, customer relationships, and alliances. Specifically, the course attempts to help develop knowledge and skills in the application of advanced marketing frameworks, concepts, and methods for making strategic choices at the business level.

806. (MKTG306) Special Topics: Retail Merchandising. (A) Prerequisite(s): MKTG 611 or MKTG 725. 0.5 cu half credit course. Format: Lecture, discussion. (Former MKTG 896).

This course provides a detailed introduction to the role of merchandising at various retailers, including apparel and other soft lines businesses, grocery stores, mass-merchandisers and "category killers". Selected topics may include product development, line planning, sourcing, product life cycle, forecasting, planning and allocation, pricing and markdowns, and vendor relations.

809. (MKTG309) Special Topics: Experiments for Business Decision Making. (C) Prerequisite(s): MKTG 611 required; STAT 431 or equivalent required; MKTG 712 recommended but not required. (Former MKTG 669).

In the past decade, massive shifts in how companies interact with their customers have suddenly made field experiments an economically feasible way to learn about a variety of business questions such as what types of promotions are most effective, what products should be stocked at a store, how e-mail promotions should be designed, how sales staff should be compensated, etc. Many marketers engaged in online retailing, direct-marketing, online advertising, media management, etc. are rapidly embracing a "test and learn"

philosophy and a number of platforms such as Google Website Optimizer, have been developed to facilitate rigorous field experiments in the online environment. Just as with the quality revolution in manufacturing during the 1980s and 1990s, the rapid rise of the "test and learn" philosophy in marketing has created a huge demand for those who can design, field, and analyze marketing experiments.

Through this course, you will learn and practice a wide range of critical skills, from the statistical methods used to design and analyze experiments to the management and strategy required to execute an experiment and act on the results. Although the cases and examples will focus on marketing problems, the material covered can be applied in a number of other domains particularly operations management and product design.

850. Special Topics - Consumer Neuroscience. (B) Wes Hutchinson.

Prerequisite(s): None. 0.5 CU half credit course.

Basic neuroscience made steady progress throughout the 20th century with only small areas of application outside of medicine. Over the past 30 years, however, breakthroughs in measurement and computation have accelerated basic research and created major applications for business and technology. Currently, applications to marketing research and product development are experiencing explosive growth that has been met with both excitement and skepticism. This mini-course provides an overview of these developments. The course follows a straightforward theory/application format for each major area of cognitive neuroscience. On Tuesdays, the basics of neuroscience are covered along with a few illustrative applications. A key take-away from this part of the course is to gain the elementary scientific knowledge that is necessary to separate "neuro-reality" from "neuro-hype." On Thursdays, we cover application areas in greater detail. There are two general types of applications. First, there are applications of neuroscience in marketing research. Topics will range from well-known and widely used applications, such as eye-tracking measures in the lab and the field, to emerging methods and measures, such as mobile EEG, face reading algorithms, and fMRI predictors of market response.

Application areas include, packaging and shelf display, copy testing for television and print advertisements, video games, product usability studies, and simulators. Second, there are applications

of neuroscience in the development of new products. Product development applications include wearables, physiological devices and apps, sensory branding for foods and fragrances, pharmaceuticals and medical devices (especially prosthetic devices), and neuroscience-based "edutainment" designed to enhance cognitive functions. Special attention will also be paid to changes in brain anatomy and function over the lifespan. Key markets are children (mainly for enhancement products), seniors (mainly for remediation/restoration products), and working adults (both enhancement and remediation/restoration products). This course is self-contained and has no prerequisites. That said, students with some background in business, industrial design, psychology, or neuroscience are likely to find the material covered in this course complementary to the knowledge they already have.

SM 890. (OIDD890) Advanced Study Project (ASP). (C)

Prerequisite(s): For GCP Advanced Study Projects: Acceptance to this course is by application only. Students must apply and be interviewed in September for spring participation. Visit www.whartongcp.org. Individual group meetings with the instructor.

The principal objectives of this course are to provide opportunities for undertaking an in-depth study of a marketing problem and to develop the students' skills in evaluating research and designing marketing strategies for a variety of management situations. Selected projects can touch on any aspect of marketing as long as this entails the elements of problem structuring, data collection, data analysis, and report preparation. The course entails a considerable amount of independent work. (Strict library-type research is not appropriate) Class sessions are used to monitor progress on the project and provide suggestions for the research design and data analysis. The last portion of the course often includes an oral presentation by each group to the rest of the class and project sponsors. Along with marketing, the projects integrate other elements of management such as finance, production, research and development, and human resources.

SM 895. Advanced Study Project - Domestic Consulting Practicum. (B)

Prerequisite(s): Acceptance to this course is by application only. Students must apply and be interviewed in September for spring participation. Visit www.whartongcp.org. Corequisite(s): Students will not be permitted to enroll in this course if they are delaying a core, in particular FNCE 601 in fall and FNCE 602 in the spring. Course is open to all first and second year full time and executive MBA students. Individual group meetings with the instructor.

The Wharton Domestic Consulting Practicum (DCP) creates a forum in which students of business can apply the concepts, methods and paradigms learned in the classroom with the resources of a professional network to develop strategic, innovative, and operational plans for organizations worldwide. By providing students with resources and guidance (as opposed to direction), the DCP endeavors to create an academic, social and ethically-minded atmosphere which cultivates experiential and dynamic learning, and which produces state-of-the-art results for clients. Students' learning correlates with their commitment levels and the efforts put into the projects and team effort. Many, if not all, dimensions of the experience are screened against the "reality experience" one would encounter in consulting (and other professional) environments, with an appropriate safety net tailored to each team to enhance success and the Wharton brand.

899. (MKTG399) Independent Study. (C)

Prerequisite(s): MKTG 611; and MKTG 612, 613 or 622; and the written permission of instructor and the department MBA faculty advisor.

A student contemplating an independent study project must first find a faculty member who agrees to supervise and approve the student's written proposal as an independent study (MKTG 899). If a student wishes the proposed work to be used to meet the ASP requirement, he/she should then submit the approved proposal to the MBA adviser who will determine if it is an appropriate substitute. Such substitutions will only be approved prior to the beginning of the semester.

SM 940. Measurement and Data Analysis in Marketing - Part A. (A)

PhD Course. (Formerly part of MKTG 966) 0.5 cu.

In this course we consider models for binary, count, and continuous data including contingency table models, logistic and probit regression, ANOVA, ANCOVA, conjoint analysis, and OLS. In addition we cover multidimensional

techniques such as MDS, cluster analysis, principal components analysis, factor analysis, and discriminant analysis. We utilize the statistics package SPlus 2000, and also BUGS for implementing many of the techniques described in a Bayesian manner.

SM 941. Measurement and Data Analysis in Marketing - Part B. (B) PhD Course. (Formerly part of MKTG 966) 0.5 cu.

In this course we consider models for binary, count, and continuous data including contingency table models, logistic and probit regression, ANOVA, ANCOVA, conjoint analysis, and OLS. In addition we cover multidimensional techniques such as MDS, cluster analysis, principal components analysis, factor analysis, and discriminant analysis. We utilize the statistics package SPlus 2000, and also BUGS for implementing many of the techniques described in a Bayesian manner.

SM 942. Research Methods in Marketing - Part A. (A) PhD Course. (Formerly part of MKTG 967).

This course provides an introduction to the fundamental methodological issues that arise in experimental and quasi-experimental research. Illustrative examples are drawn from the behavioral sciences with a focus on the behavior of consumers and managers. Topics that are covered include: the development of research ideas; data collection and reliable measurement procedures; threats to validity; control procedures and experimental designs; and data analysis. Emphasis is placed on attaining a working knowledge of the use of regression methods for non-experimental and quasi-experimental data and analysis of variance methods for experimental data. The primary deliverable for this course is a meta-analysis of a research problem of the students choosing that investigates the effects of research methods on empirical results.

SM 943. Research Methods in Marketing - Part B. (A) PhD Course. (Formerly part of MKTG 967).

This course provides an introduction to the fundamental methodological issues that arise in experimental and quasi-experimental research. Illustrative examples are drawn from the behavioral sciences with a focus on the behavior of consumers and managers. Topics that are covered include: the development of research ideas; data collection and reliable measurement procedures; threats to

validity; control procedures and experimental designs; and data analysis. Emphasis is placed on attaining a working knowledge of the use of regression methods for non-experimental and quasi-experimental data and analysis of variance methods for experimental data. The primary deliverable for this course is a meta-analysis of a research problem of the students choosing that investigates the effects of research methods on empirical results.

SM 950. Judgment and Decision Making Perspectives on Consumer Behavior - Part A. (A) PhD Course.

Alternates with MKTG 951. Offered every other year. (Formerly part of MKTG 960).

The purpose of this course is to provide a solid foundation for critical thinking and research on the judgment, decision-making and choice aspects of consumer behavior. There is a focus on how people process information when making judgments and choices and how the processes of judgment and choice might be improved. Topics of discussion include rationality, judgment under uncertainty, judgment heuristics and biases, risk taking, dealing with conflicting values, framing effects, prospect theory, inter-temporal choice, preference formation, and the psychology of utility. The focus will be on the individual decision-maker, although the topics will also have some applicability to group and organizational decision-making and behavioral research methodologies.

SM 951. Judgment and Decision Making Perspectives on Consumer Behavior - Part B. (A) PhD Course.

Formerly part of MKTG 960. Contact professor for current syllabus.

The purpose of this course is to build off MKTG950, "Judgment and Decision Making Perspectives on Consumer Behavior - Part A" with a more specialized focus that will vary from year to year. This course is intended for those interested in deeping their study of Judgment and Decision Making beyond the basics.

SM 952. Information Processing Perspectives on Consumer Behavior - Part A. (B) PhD Course.

Alternates with MKTG 953. Offered every other year. (Formerly part of MKTG 963).

The purpose of this seminar is to provide graduate students with a solid foundation for critical thinking and research in psychology and marketing on information processing related topics. Topics of discussion include consumer knowledge (learning, memory and categorization), attitude theory, persuasion, affect and

social influence. The course draws from the literature in marketing, psychology and economics. The course will enable students to conceptualize, operationalize, and develop research ideas. Therefore, the focus is on understanding theoretical and methodological approaches to various aspects of consumer behavior, as well as advancing this knowledge by developing testable hypotheses and theoretical perspectives that build on the current knowledge base.

SM 953. Information Processing Perspectives on Consumer Behavior - Part B. (B) PhD Course. (Formerly part of MKTG 963).

The purpose of this seminar is to provide graduate students with a solid foundation for critical thinking and research in psychology and marketing on information processing related topics. Topics of discussion include consumer knowledge (learning, memory and categorization), attitude theory, persuasion, affect and social influence. The course draws from the literature in marketing, psychology and economics. The course will enable students to conceptualize, operationalize, and develop research ideas. Therefore, the focus is on understanding theoretical and methodological approaches to various aspects of consumer behavior, as well as advancing this knowledge by developing testable hypotheses and theoretical perspectives that build on the current knowledge base.

SM 954. Economic/OR Models of Marketing - Part A. (A) PhD Course. (Formerly part of MKTG 961).

This doctoral seminar reviews analytical models relevant to improving various aspects of marketing decisions such as new product launch, product line design, pricing strategy, advertising decisions, sales force organization and compensation, distribution channel design and promotion decisions. The primary focus will be on analytical models. The seminar will introduce the students to various types of analytical models used in research in marketing, including game theory models for competitive analysis, agency theory models for improving organization design and incentives within organizations, and optimization methods to improve decision making and resource allocation. The course will enable students to become familiar with applications of these techniques in the marketing literature and prepare the students to apply these and other analytical approaches to research problems that are of interest to the students.

SM 955. Economic/OR Models of Marketing - Part B. (B) PhD Course. (Formerly part of MKTG 961).

This is a continuation of MKTG954. This doctoral seminar reviews analytical models relevant to improving various aspects of marketing decisions such as new product launch, product line design, pricing strategy, advertising decisions, sales force organization and compensation, distribution channel design and promotion decisions. The primary focus will be on analytical models. The seminar will introduce the students to various types of analytical models used in research in marketing, including game theory models for competitive analysis, agency theory models for improving organization design and incentives within organizations, and optimization methods to improve decision making and resource allocation. The course will enable students to become familiar with applications of these techniques in the marketing literature and prepare the students to apply these and other analytical approaches to research problems that are of interest to the students.

SM 956. Empirical Models in Marketing - Part A. (B) PhD Course. (Formerly part of MKTG 964) 0.5 cu.

This course is designed to generate awareness and appreciation of the way several substantive topics in marketing have been studied empirically using quantitative models. This seminar reviews empirical models of marketing phenomena including consumer choice, adoption of new products, sales response to marketing mix elements, and competitive interaction. Applies methods and concepts developed in econometrics and statistics but focuses on substantive issues of model structure and interpretation, rather than on estimation techniques. Ultimately, the goals are a) to prepare students to read and understand the literature and b) to stimulate new research interests. By the end of the course, students should be familiar with the key issues and approaches in empirical marketing modeling.

SM 957. Empirical Models in Marketing - Part B. (B) PhD Course.

Alternates with MKTG 956. Offered every other year. (Formerly part of MTKG 964).

This course is designed to generate awareness and appreciation of the way several substantive topics in marketing have been studied empirically using quantitative models. This seminar reviews empirical models of marketing phenomena including consumer choice, adoption of new products, sales response to marketing mix elements, and competitive interaction. Applies methods and concepts developed in econometrics and statistics but focuses on substantive issues of model structure and interpretation, rather than on estimation techniques. Ultimately, the goals are a) to prepare students to read and understand the literature and b) to stimulate new research interests. By the end of the course, students should be familiar with the key issues and approaches in empirical marketing modeling.

SM 971. Advanced Topics in Marketing - Part A. (A) Wednesday

Seminar. Half credit course meets entire semester.

Taught collectively by the faculty members from the Marketing Department, this course investigates advanced topics in marketing. It is organized in a way that allows students to 1) gain depth in important areas of research identified by faculty; 2) gain exposure to various faculty in marketing and their research values and styles; and 3) develop and advance their own research interests.

SM 972. Advanced Topics in Marketing - Part B. (B) Wednesday

Seminar. Half credit course meets entire semester.

Taught collectively by the faculty members from the Marketing Department, this course investigates advanced topics in marketing. It is organized in a way that allows students to 1) gain depth in important areas of research identified by faculty; 2) gain

exposure to various faculty in marketing and their research values and styles; and 3) develop and advance their own research interests.

SM 973. Research Seminar in Marketing - Part A. (A) Thursday Seminar. Half credit course meets entire semester.

This course is taught collectively by the faculty members from the Marketing Department. It is designed to expose Doctoral students to the cutting-edge research in marketing models in order to help them to define and advance their research interests. This course will offer: in-depth discussions on some important topics in marketing by experts in respective areas; tools, and methodologies required for conducting research in those areas; broad exposure to our faculty members and their proven research styles.

SM 974. Research Seminar in Marketing - Part B. (B) Thursday Seminar. Half credit course meets entire semester.

This course is taught collectively by the faculty members from the Marketing Department. It is designed to expose Doctoral students to the cutting-edge research in marketing models in order to help them to define and advance their research interests. This course will offer: in-depth discussions on some important topics in marketing by experts in respective areas; tools, and methodologies required for conducting research in those areas; broad exposure to our faculty members and their proven research styles.

995. Dissertation. (C)

999. Supervised Independent Study. (C) Ph.D. course.

Requires written permission of instructor and the department graduate adviser.

MATERIALS SCIENCE AND ENGINEERING (EG) {MSE}

099. Undergraduate Research and/or Independent Study. (C) Open to all students.

An opportunity for the student to become closely associated with a professor (1) in a research effort to develop research skills and technique and/or (2) to develop a program of independent in-depth study in a subject area in which the professor and student have a common interest. The challenge of the task undertaken must be consistent with the student's academic level. To register for this course, the student and professor jointly submit a detailed proposal to the undergraduate curriculum chairman no later than the end of the first week of the term. Note: a maximum of 2 c.u. of MSE 099 may be applied toward the B.A.S. or B.S.E. degree requirements.

215. Introduction to Nanoscale Functional Materials. (B)

Prerequisite(s): MSE 221.

The purpose of this first course in the major is to introduce the student to key concepts underlying the design, properties and processing of nanoscale functional materials, and how they are employed in practical applications. Fundamental chemical and physical principles underlying the properties of electronic, dielectric and magnetic materials will be developed in the context of metals, semiconductors, insulators, crystals, glasses, polymers and ceramics. Miniaturization and the nanotechnology revolution confronts materials science with limitations and opportunities; examples in which nanoscale materials are really different from our macro world experience will be explored.

L/R 220. Structural Materials. (A)

Prerequisite(s): Knowledge of basic calculus and chemistry.

This course provides an introduction to the fundamental concepts of Materials Science through an examination of the structure, property, performance relationship for synthetic and biologic structural materials with a focus on surgical implants and medical devices. Consideration is given to issues of biocompatibility, degradation of materials by the biologic systems, and biologic response to artificial materials. Particular attention will be given to the materials of total hip and knee prostheses

and their relationship to the long term outcomes in hip and knee arthroplasty.

221. Quantum Physics of Materials. (C)

Prerequisite(s): PHYS 140, 141 concurrent and MATH 240. Meets Natural Science Requirement.

The course is directed at the development of a background in basic physics required to understand the behavior of electrons in atoms, molecules and solids. Examples to illustrate the application of these techniques will be centered in the free and nearly free electron theory of solids. The application of modern physics to many state-of-the-art materials analysis techniques will be demonstrated throughout the course.

L/L 250. Nano-scale Materials Lab. (B)

Prerequisite(s): MSE 220.

The course provides an in-depth experimental introduction to key concepts in materials and the relationships between nanoscale structure, the properties and performance. The use of laboratory methods to examine the structure of materials, to measure the important properties, and to investigate the relationship between structure and properties is covered. Emphasis is placed on a complete exposure of Nano and Materials science as a field. Most experiments require multiple laboratory sessions, with priority given to experiments in which students explore the entire range of materials science, from the synthesis of materials and the characterization of structure, thermodynamics and composition, to the measurement of properties and discussion of applications. Students are able to realize working devices as an end product of the key laboratories in this course. Practice in oral and written communication is realized through course assignments.

260. Energetics of Macro and Nano-scale Materials. (B)

Prerequisite(s): CHEM 101 or 102.

Basic principles of chemical thermodynamics as applied to macro and nano-sized materials. This course will cover the fundamentals of classical thermodynamics as applied to the calculation and prediction of phase stability, chemical reactivity and synthesis of materials systems. The size-dependent properties of nano-sized systems will be explored through the incorporation of the thermodynamic properties of surfaces. The prediction of the phase stability of two and three component systems will be illustrated through the calculation and interpretation of phase diagrams for metallic,

semiconductor, inorganic, polymeric and surfactant systems.

330. (BE 330) Soft Materials. (A)

Prerequisite(s): Junior or Senior standing, CHEM 102.

This course will serve as an introduction of soft condensed matter to students with background in chemistry, physics and engineering. It covers general aspects of fundamental interactions between soft materials with applications involving polymers, colloids, liquid crystals, amphiphiles, food and biomaterials.

360. Structure at the Nanoscale. (A)

Basic principles of material structure and organization from nano to macro sizes. This course will cover the fundamentals of materials structure including the crystalline, liquid crystalline and glassy states as well as 1-D, 2-D and 3-D structure and defects. Examples will be used from the different classes of materials - metallic, semiconductor, inorganic, polymeric - with particular emphasis on important components of structure on the nanoscale including particles, surfaces, interfaces and defects.

393. Materials Selection. (B)

Prerequisite(s): MSE 220, Junior or Senior Standing.

Throughout mankind's history, materials have played a critical role in civilization and technology. The selection of materials has been based on availability and functionality. The rapid advances of materials technologies in the last 150 years, however, have made nearly all classes and forms of materials available, at a cost. Therefore, in theory at least, materials selection can now proceed on a rational basis as an optimization process. In this course, we will focus on structural applications where mechanical design is central. By the end of the course, the students can expect to acquire a level of engineering familiarity with a broad range of materials, and be prepared to undertake material design projects in the future.

405. (MEAM405, MEAM505, MSE 505) Mechanical Behavior of Macro/Nanoscale Materials. (A)

The application of continuum and microstructural concepts to consideration of the mechanics and mechanisms of flow and fracture in metals, polymers and ceramics. The course includes a review of tensors and elasticity with special emphasis on the effects of symmetry on tensor properties. Then deformation, fracture and degradation (fatigue and wear) are treated, including

mapping strategies for understanding the ranges of material properties.

430. (CBE 430, CBE 510, MSE 580) Polymers and Biomaterials. (A)

Prerequisite(s): MSE 260 or equivalent course in thermodynamics or physical chemistry (such as BE 223, CHE 231, CHEM 221, MEAM 203).

Polymer is one of the most widely used materials in our daily life, from the rubber tires to clothes, from photoresists in chip manufacturing to flexible electronics and smart sensors, from Scotch tapes to artificial tissues. This course teaches entry-level knowledge in polymer synthesis, characterization, thermodynamics, and structure-property relationship. Emphasis will be on understanding both chemical and physical aspects and polymer chain size/dimension that drive the molecular, microscopic and macroscopic structures and the resulting properties. We will discuss how to apply polymer designs to advance nanotechnology, electronics, energy and biotechnology. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, shape memory polymers, hydrogels, and elastomeric deformation and applications.

440. Phase Transformations. (B)

The state of matter is dependent upon temperature, thermal history, and other variables. In this course the science of structural transitions is treated, with the purpose in mind of utilizing them for producing materials with superior properties. The subjects covered include the methods of structural analysis, solidification, solid state transformation, and order-disorder transition.

460. Computational Materials Science. (C)

Prerequisite(s): Junior or Senior Standing. Ability to write simple computer codes would be an advantage.

This course provides an introduction to modeling and simulation in materials science, covering continuum methods (e.g. finite element methods) and atomistic and molecular simulation (e.g. molecular dynamics). These tools play an increasingly important role in modern engineering. You will get hands-on training in both the fundamentals and applications of these methods to key engineering problems. The lectures will provide an exposure to areas of application, based on the scientific exploitation of the power of computation. We will use software packages (Comsol and LAMMPS) and thus extensive programming skills are not required. Matlab background needed

for the course will be covered in a self-contained module.

465. (MSE 565) Fabrication and Characterization of Micro and Nanostructured Devices. (C)

This course surveys various processes that are used to produce materials structured at the micron and nanometer scales for electronic, optical and chemical applications. Basic principles of chemistry, physics, thermodynamics and surface/interfacial science are applied to solid state, liquid, and colloidal approaches to making materials. The approaches to nano- and microfabrication: photolithography, soft lithography, nanoimprint lithography, 3D printing and self-assembly, are covered. The course is heavily lab based, with 25% of class time and 30% of the homework devoted to hands on experiences. Lab assignments are a series of structured individual/group projects. Evaluation is based on 3-4 lab reports, 4 problem sets with journal paper reading assignment, and a final project design.

495. Senior Design. (A)

Independent student or team research on the design and construction of an original experimental or theoretical project related to materials science. The results of this project are presented at the end of the year in the form of a thesis and in an oral presentation to peers and faculty.

496. Senior Design. (B)

Independent student or team research on the design and construction of an original experimental or theoretical project related to materials science. The results of this project are presented at the end of the year in the form of a thesis and in an oral presentation to peers and faculty.

L/L 500. Experimental Methods in Materials Science. (A)

Prerequisite(s): Permission of the Undergraduate Curriculum Chair and Instructor.

This laboratory course introduces students to a variety of experimental methods used in materials science and engineering. Hands-on training will be provided for atomic force microscopy, X-ray diffraction and scattering, mechanical testing with image capture, Rutherford backscattering, and dynamic light scattering. Students will use numerous software packages for data collection and analysis, as well as being introduced to LabVIEW as a method for customizing experiments. In addition, students will see demonstrations of scanning electron microscopy, transmission electron microscopy, and electron

diffraction and analyze data from these methods

505. (MEAM405, MSE 405) Mechanical Properties of Macro/Nanoscale Materials. (A)

The application of continuum and microstructural concepts to consideration of the mechanics and mechanisms of flow and fracture in metals, polymers and ceramics. The course includes a review of tensors and elasticity with special emphasis on the effects of symmetry on tensor properties. Then deformation, fracture and degradation (fatigue and wear) are treated, including mapping strategies for understanding the ranges of material properties.

507. (MEAM507) Fundamentals of Materials. (C)

This course will provide a graduate level introduction to the science and engineering of materials. It is designed specifically to meet the needs of students who will be doing research that involves materials but who do not have an extensive background in the field. The focus is on fundamental aspects of materials science and will emphasize phenomena and how to describe them. The course assumes an undergraduate background in any area of physical/chemical science and undergraduate mathematics appropriate to this. The course will also be accessible to students of applied mathematics.

515. Mathematics for Materials Science. (A)

Covers mathematics encountered in various problems encountered in materials science: Complex analysis and Fourier and Laplace transforms (used in diffraction and when solving differential equations). Linear transformations and tensors (continuum analyses of elastic, electric, etc. properties of crystals). Sturm-Liouville theory of linear differential operators (mathematics of quantum mechanics). Partial differential equations (wave, Laplace and diffusion equation).

520. Structure of Materials. (B)

Prerequisite(s): Permission of the Undergraduate Curriculum Chair and Instructor.

Description of crystal structure and bonding. Symmetry: line, plane, point, and space groups. Symmetry considerations in structure-property relations. Physical optics, diffraction as Fourier transforms. Effects of size, shape, temperature and distortion on diffraction intensity. Gas, liquid, fibers, DNA. Diffuse scattering, order/disorder. Pair distribution function, inverse problem, small angle scattering.

Radiation-matter interaction, scattering physics, atomic and electronic spectroscopy.

525. (ESE 525) Nanoscale Science and Engineering. (A)

Prerequisite(s): ESE 218 or PHYS 240 or MSE 220 or equivalent, or by permission.

Overview of existing device and manufacturing technologies in microelectronics, optoelectronics, magnetic storage, Microsystems, and biotechnology. Overview of near- and long-term challenges facing those fields. Near- and long-term prospects of nanoscience and related technologies for the evolutionary sustenance of current approaches, and for the development of revolutionary designs and applications.

530. Thermodynamics and Phase Equilibria. (A)

Prerequisite(s): Permission of the Undergraduate Curriculum Chair and Instructor.

Fundamental elements of engineering thermodynamics, statistical thermodynamics and materials thermodynamics. Covers thermodynamic functions, stability, phase transitions, mixtures (gases, condensed matter, polymer solution), defects and interfaces. Applications to energy problems (engines, efficiency, power, electrochemical cells), properties (constitutive equations, equation of states), phase diagrams and predominance diagrams.

536. ELEC PROP OF MATERIALS. (C)

537. (MEAM537) Nanotribology. (C)

Faculty. Prerequisite(s): Freshman physics; MEAM 354 or equivalent, or consent of instructor.

Engineering is progressing to ever smaller scales, enabling new technologies, materials, devices, and applications. This course will provide an introduction to nanoscale mechanics and tribology at interfaces, and the critical role these topics play in the developing area of nanoscience and nanotechnology. We will discuss how mechanics and tribology at interfaces become integrated with the fields of materials science, chemistry, physics, and biology at this scale. We will cover a variety of concepts and applications, drawing connections to both established and new approaches. We will discuss the limits of continuum mechanics and present newly developed theories and experiments tailored to describe micro- and nano-scale phenomena. We will emphasize specific applications throughout the course. Literature reviews, critical peer discussion,

individual and team problem assignments, a laboratory project, and student presentations will be assigned as part of the course.

540. Phase Transformations. (B)

Prerequisite(s): Permission of the Undergraduate Curriculum Chair and Instructor.

The atomic structure of condensed matter is dependent upon temperature, pressure, thermal history and other variables. In this course, the science of such structural transitions is treated. The topics discussed include introduction to statistical mechanics, theory of nucleation and growth kinetics, solidification, diffusionless solid state transformations, and microscopic theory of phase transition.

545. Materials for Energy Storage and Generation. (A)

This course provides an understanding of the major materials issues for current and emerging energy technologies. It includes a classification of materials for energy applications involving generation, transmission and storage of electricity; current and future uses of fossil fuels, with emphasis on higher efficiency uses of fossil fuels and "all electric" applications (e.g. transportation and power generation) and new materials as technology enablers for future energy sources: nuclear, fuel cells, solar, wind.

555. Environmental Degradation of Materials. (B)

This course is designed to provide an understanding of the corrosion principles and the engineering methods used to minimize and prevent corrosion. Metals and alloys are emphasized because these are the materials in which corrosion is the most prevalent. Aqueous environments are also emphasized these are the common corrosion conditions.

In the first half of the course, the impact and electrochemical nature of the corrosion are described, and then the corrosion fundamentals (electrochemical reactions, phase (pourbaix) diagrams, aqueous corrosion kinetics, passivity, and high-temperature oxidation) are emphasized. The forms of corrosion (galvanic, pitting and crevice, environmentally induced cracking) and corrosion in the human body (for example, surgical implants and prosthetic devices) and in other selective environments (concrete, seawater, and water solutions containing dissolved salts, sulfur, and bacteria) are also described in the second half.

561. (MEAM553) Atomic Modeling in Materials Science. (B)

This course covers two major aspects of atomic level computer modeling in materials. 1. Methods: Molecular statics, Molecular dynamics, Monte Carlo, Kinetic Monte Carlo as well as methods of analysis such as correlations, radial distribution function, etc. 2. Semi-empirical descriptions of atomic interactions: pair potentials, embedded atom method, covalent bonding, ionic bonding, tight-binding. Basics of the density functional theory. Needed mechanics, condensed matter physics, thermodynamics and statistical mechanics are briefly explained.

565. (MSE 465) Fabrication and Characterization of Nanostructured Devices. (C)

Prerequisite(s): MSE 360 or permission of the instructor.

This course surveys various processes that are used to produce materials structured at the micron and nanometer scales for electronic, optical and chemical applications. Basic principles of chemistry, physics, thermodynamics and surface/interfacial science are applied to solid state, liquid, and colloidal approaches to making materials. The approaches to nano- and microfabrication: photolithography, soft lithography, nanoimprint lithography, 3D printing and self-assembly, are covered. The course is heavily lab based, with 25% of class time and 30% of the homework devoted to hands on experiences. Lab assignments are a series of structured individual/group projects. Evaluation is based on 3-4 lab reports, 4 problem sets with journal paper reading assignment, and a final project design.

570. (ESE 514) Physics of Materials I. (A)

Prerequisite(s): Undergraduate physics and math through modern physics and differential equations.

Failures of classical physics and the historical basis for quantum theory. Postulates of wave mechanics; uncertainty principle, wave packets and wave-particle duality. Schrodinger equation and operators; eigenvalue problems in 1 and 3 dimensions (barriers, wells, hydrogen, atom). Perturbation theory; scattering of particles and light. Free electron theory of metals; Drude and Sommerfeld models, dispersion relations and optical properties of solids. Extensive use of computer-aided self-study will be made.

571. (ESE 515) Physics of Materials

II. (M) Prerequisite(s): MSE 570 or equivalent.

Failures of free electron theory. Crystals and the reciprocal lattice wave propagation in periodic media; Bloch's theorem. One-electron band structure models: nearly free electrons, tight binding. Semiclassical dynamics and transport. Cohesive energy, lattice dynamic and phonons. Dielectric properties of insulators. Homogeneous semiconductors and p-n junctions. Experimental probes of solid state phenomena; photoemission, energy loss spectroscopy, neutron scattering. As time permits, special topics selected from the following: correlation effects, semiconductor alloys and heterostructures, amorphous semiconductors, electro-active polymers.

575. Statistical Mechanics. (B)

This course will provide an overview of select topics in equilibrium and non-equilibrium statistical mechanics. The emphasis will be on elucidating the basic postulates of statistical mechanics, explaining its fundamental laws and introducing the methodology of non-equilibrium processes via select applications in diverse fields. Statistical Mechanics is a unique branch of physics that permeates our understanding of matter at all length scales, from nanometers to stellar dimensions, and ranging in temperatures from nano-Kelvin to billions of degrees Kelvin. The techniques of Statistical Mechanics have been employed in condensed matter physics and materials science when studying solids, liquids, and gases as well as in other disciplines such as biology, zoology, molecular biology, physiology, economics, signal transmission and large scale networks such as the world-wide web. It is envisaged that students at Penn and especially in MSE/SEAS will benefit by getting a perspective of this fascinating subject and appreciate how its principles govern phenomena as diverse as semiconductor devices, greenhouse effect, biological pattern formation and instabilities on material surfaces.

580. (MSE 430) Polymers and Biomaterials. (A)

Prerequisite(s): MSE 260 or equivalent course in thermodynamics or physical chemistry (such as BE 223, CHE 231, MEAM 203).

Polymer is one of the most widely used materials in our daily life, from the rubber tires to clothes, from photoresists in chip manufacturing to flexible electronics and smart sensors, from Scotch tapes to artificial tissues. This course teaches entry-

level knowledge in polymer synthesis, characterization, thermodynamics, and structure-property relationship. Emphasis will be on understanding both chemical and physical aspects and polymer chain size/dimension that drive the molecular, microscopic and macroscopic structures and the resulting properties. We will discuss how to apply polymer designs to advance nanotechnology, electronics, energy and biotechnology. Case studies include thermodynamics of block copolymer thin films and their applications in nanolithography, shape memory polymers, hydrogels, and elastomeric deformation and applications.

581. Advanced Polymer Physics. (M)

Prerequisite(s): MSE 430 or equivalent.

Advanced polymer physics includes the topics of polymer chain statistics, thermodynamics, rubber elasticity, polymer morphology, fracture, and chain relaxation. Rigorous derivations of select theories will be presented along with experimental results for comparison. Special topics, such as liquid crystalline polymers, blends and copolymers, will be presented throughout the course. Special topics, such as liquid crystallinity, nanostructures, and biopolymer diffusion, will be investigated by teams of students using the current literature as a resource.

590. Surface and Thin Film Analysis Techniques. (M)

The objective of this course is to study the fundamental physics of the interaction of ions, electrons, photons, and neutrons with matter. A second objective is to use the products of these interactions to characterize the atomic (or molecular) structure, composition, and defects of a semiconductor, ceramic, polymer, composite, or metal. Ion beam techniques will include Rutherford backscattering and forward recoil spectrometry, and secondary ion mass spectrometry. Electron probe techniques will include x-ray photoelectron spectroscopy. Neutron techniques will include neutron reflectivity. The strengths and weaknesses of each technique will be discussed. Examples will be drawn from metallurgy, electronic materials, polymer science, ceramic science, archaeology, and biology.

597. Master's Thesis Research. (C)

599. Master's Indep Study. (C)

610. Electron Microscopy. (M)

Theoretical and practical aspects of conventional and high-resolution transmission electron microscopy and

related techniques. Imaging theory; kinematical and dynamical diffraction theory. Diffraction contrast analysis of imperfect crystals; phase contrast analysis of crystal lattice structures. With laboratory.

637. (MEAM637) Mesoscale Modeling and Simulation. (C)

This course is targeted at engineering, physical science, computational and mathematics Ph.D. students. The course focuses on techniques for the simulation/modeling of materials on a time and/or length scale that is large compared with atomistic/molecular but with structure that is fine on the scale of typical (homogenized) continuum theory. The course explores kinetic models, defect dynamics, and statistical mechanics models and their implementation in computer simulation.

650. (MEAM650) Mechanics of Soft and Biomaterials. (M)

This course is aimed to expose the students to a variety of topics in mechanic materials via discussion of "classic" problems that have had the widest impact long period of time and have been applied to analyze the mechanical behavior a variety of biological and engineering materials.

670. Statistical Mechanics of Solids. (M)

This course constitutes an introduction to statistical mechanics with an emphasis on application to crystalline solids. Ensemble theory, time and ensemble averages and particle statistics are developed to give the basis of statistical thermodynamics. The theory of the thermodynamic properties of solids is presented in the harmonic approximation anharmonic properties are treated by the Mie-Gruneisen method. Free electron theory in metals and semiconductors is given in some detail, with the transport properties being based on conditional transition probabilities and the Boltzmann transport equation. The theory of order-disorder alloys is treated by the Bragg-Williams, Kirkwood and quasi-chemical methods.

790. Selected Topics in Materials Science and Engineering. (C)

Staff. Both terms.

Students should check department office for special topics.

895. Teaching Practicum. (C)

**MATHEMATICS
(AS) {MATH}**

CALCULUS: MATH 104, the first calculus course, assumes that students have had AB Calculus or the equivalent. Students who have not had AB Calculus or did poorly in AB Calculus should take MATH 103, which provides an introduction to calculus. There are two second-semester calculus courses. Students are advised to check their major department or their program for the specific requirements. In general, Math 114 is taken by students in the natural sciences, engineering and economics. Math 114 prepares students for the more advanced Calculus courses Math 240 and 241. Those who do not plan to take Math 240 may still want to consider taking Math 114. Math 115 is for students who do not plan to take more calculus like Math 240, and want an introduction to probability and matrices. Pre-med students who do not need Math 114 for their majors could take Math 115. Most Wharton students may take either Calculus II course.

MATH 103, 104, 114, 115, and 170 fulfill the FORMAL REASONING & ANALYSIS General Requirement. Also, MATH 170 satisfies the NATURAL SCIENCE & MATHEMATICS General Requirement.

Students may not receive credit for two courses at the same level where the content is similar. For example, a student may not receive credit for both MATH 114 and MATH 115. The list of FORBIDDEN PAIRS of courses is (114, 115), (312, 370), (312, 412), (360, 508), (361, 509), (370, 502), (371, 503), and several statistics courses. Students are allowed to take a "topics course" such as MATH 480 more than once if the topics are different.

PROSPECTIVE MATH MAJORS should note that the "proof in mathematics" courses, 202 and 203, are recommended for the major. These are courses that are taken concurrently with Calculus. Potential majors who begin Calculus with MATH 114 or 240 usually take at least one of these courses during their freshman year.

Potential majors who begin with MATH 104 often postpone their proof courses until the following year. Please see <http://www.math.upenn.edu/ugrad/major.html> for more information. To find out the requirements for MATH MINORS, please visit our web site <http://www.math.upenn.edu/ugrad/minor.html> for details. Majors and Minors could also find the most current listing of the cognate courses Majors or Minors may take at

<http://www.math.upenn.edu/ugrad/cognates.html>

L/R 103. Introduction to Calculus. (C) Staff. This is a Formal Reasoning course.

Introduction to concepts and methods of calculus for students with little or no previous calculus experience. Polynomial and elementary transcendental functions and their applications, derivatives, extremum problems, curve-sketching, approximations; integrals and the fundamental theorem of calculus.

L/R 104. Calculus, Part I. (C) Staff. Prerequisite(s): None. Engineering students are encouraged to register for the 006 lecture and group 6 recitations. This is a Formal Reasoning course.

Brief review of High School calculus, applications of integrals, transcendental functions, methods of integration, infinite series, Taylor's theorem, and first order ordinary differential equations. Use of symbolic manipulation and graphics software in calculus.

L/R 114. Calculus, Part II. (C) Staff. Prerequisite(s): Math 104. This is a Formal Reasoning course.

Functions of several variables, vector-valued functions, partial derivatives and applications, double and triple integrals, conic sections, polar coordinates, vectors and vector calculus, first order ordinary differential equations. Applications to physical sciences. Use of symbolic manipulation and graphics software in calculus.

L/R 115. Calculus, Part II with Probability and Matrices. (C) Staff. Prerequisite(s): Math 104. This is a Formal Reasoning course.

Functions of several variables, partial derivatives, multiple integrals, differential equations; introduction to linear algebra and matrices with applications to linear programming and Markov processes. Elements of probability and statistics. Applications to social and biological sciences. Use of symbolic manipulation and graphics software in calculus.

L/R 116. Honors Calculus. (C) Staff. This is a Formal Reasoning course.

Students who are interested in math or science might also want to consider a more challenging Honors version of Calculus II and III, Math 116 and Math 260 (the analogues of Math 114 and Math 240, respectively). These courses will cover essentially the same material as 114 and 240, but more in depth and involve

discussion of the underlying theory as well as computations.

123. Community Math Teaching Project. (M) Staff.

This course allows Penn students to teach a series of hands-on activities to students in math classes at University City High School. The semester starts with an introduction to successful approaches for teaching math in urban high schools. The rest of the semester will be devoted to a series of weekly hands-on activities designed to teach fundamental aspects of geometry. The first class meeting of each week, Penn faculty teach Penn students the relevant mathematical background and techniques for a hands-on activity. During the second session of each week, Penn students will teach the hands-on activity to a small group of UCHS students. The Penn students will also have an opportunity to develop their own activity and to implement it with the UCHS students.

L/R 170. Ideas in Mathematics. (C) Natural Science & Mathematics Sector. Class of 2010 and beyond. Staff. May also be counted toward the General Requirement in Natural Science & Mathematics.

Topics from among the following: logic, sets, calculus, probability, history and philosophy of mathematics, game theory, geometry, and their relevance to contemporary science and society.

180. Analytical Methods in Economics, Law, and Medicine. (M) Staff.

Elementary applications of decision analysis, game theory, probability and statistics to issues in accounting, contracting, finance, law, and medicine, amongst others.

SM 202. Proving Things: Analysis. (C) Staff. Corequisite(s): Math 104, 114 or 240.

This course focuses on the creative side of mathematics, with an emphasis on discovery, reasoning, proofs and effective communication, while at the same time studying real and complex numbers, sequences, series, continuity, differentiability and integrability. Small class sizes permit an informal, discussion-type atmosphere, and often the entire class works together on a given problem. Homework is intended to be thought-provoking, rather than skill-sharpening.

L/L 203. Proving things: Algebra. (C) Staff. Corequisite(s): Math 104, 114 or 240.

This course focuses on the creative side of mathematics, with an emphasis on discovery, reasoning, proofs and effective communication, while at the same time studying arithmetic, algebra, linear algebra, groups, rings and fields. Small class sizes permit an informal, discussion-type atmosphere, and often the entire class works together on a given problem. Homework is intended to be thought-provoking, rather than skill-sharpening.

210. Mathematics in the Age of Information. (C) Staff. Prerequisite(s): Math 114, Math 115 or equivalent.

This course counts as a regular elective for both the Mathematics Major and Minor.

This is a course about mathematical reasoning and the media. Embedded in many stories one finds in the media are mathematical questions as well as implicit mathematical models for how the world behaves. We will discuss ways to recognize such questions and models, and how to think about them from a mathematical perspective. A key part of the course will be about what constitutes a mathematical proof, and what passes for proof in various media contexts. The course will cover a variety of topics in logic, probability and statistics as well as how these subjects can be used and abused.

SM 220. (LAW 520, PHIL220) Proof in Math, Phil, Law. Staff.

Proofs are vital to many parts of life. They arise typically in formal logic, mathematics, the testing of medication, and convincing a jury. How do you prove that the earth is essentially a sphere (in particular, not flat)? In reality, proofs arise anywhere one attempts to convince others. However, the nature of what constitutes a proof varies wildly depending on the situation -- and on whom you are attempting to convince. Convincing your math teacher or a judge is entirely different from convincing your mother or a jury. The course will present diverse views of Proof. On occasion there may be guest lecturers.

L/R 240. Calculus, Part III. (C) Staff. Prerequisite(s): Calculus II.

Linear algebra: vectors, matrices, systems of linear equations, vector spaces, subspaces, spans, bases, and dimension, eigenvalues, and eigenvectors, matrix exponentials. Ordinary differential equations: higher-order homogeneous and inhomogeneous ODEs and linear systems of ODEs, phase plane analysis, non-linear systems.

L/R 241. Calculus, Part IV. (C) Staff. Prerequisite(s): MATH 240.

Partial differential equations and their solutions, including solutions of the wave, heat and Laplace equations, and Sturm-Liouville problems. Introduction to Fourier series and Fourier transforms. Computation of solutions, modeling using PDE's, geometric intuition, and qualitative understanding of the evolution of systems according to the type of partial differential operator.

L/R 260. Honors Calculus, Part II. (M) Staff. Prerequisite(s): Calculus II.

This is an honors version of Math 240 which explores the same topics but with greater mathematical rigor.

312. (MATH412) Linear Algebra. (M) Staff. Prerequisite(s): MATH 240. Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.

Linear transformations, Gauss Jordan elimination, eigenvalues and eigenvectors, theory and applications. Mathematics majors are advised that MATH 312 cannot be taken to satisfy the major requirements.

313. (MATH513) Computational Linear Algebra. Staff. Prerequisite(s): Math 240, and some programming experience. Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313. Students can receive credit for at most one of Math 312 and Math 313.

Many important problems in a wide range of disciplines within computer science and throughout science are solved using techniques from linear algebra. This course will introduce students to some of the most widely used algorithms and illustrate how they are actually used.

Some specific topics: the solution of systems of linear equations by Gaussian elimination, dimension of a linear space, inner product, cross product, change of basis, affine and rigid motions, eigenvalues and eigenvectors, diagonalization of both symmetric and non-symmetric matrices, quadratic polynomials, and least squares optimization.

Applications will include the use of matrix computations to computer graphics, use of the discrete Fourier transform and related techniques in digital signal processing, the analysis of systems of linear differential equations, and singular value decompositions with application to a principal component analysis.

The ideas and tools provided by this course will be useful to students who intend to tackle higher level courses in digital signal processing, computer vision, robotics, and computer graphics.

L/L 314. (AMCS514, MATH514) Advanced Linear Algebra. Staff.

Prerequisite(s): Math 114 or 115. Math 314/514 covers Linear Algebra at the advanced level with a theoretical approach. Students can receive credit for at most one of Math 312 or Math 314.

Topics will include: Vector spaces, Basis and dimension, quotients; Linear maps and matrices; Determinants, Dual spaces and maps; Invariant subspaces, Cononical forms; Scalar products: Euclidean, unitary and symplectic spaces; Orthogonal and Unitary operators; Tensor products and polylinear maps; Symmetric and skew-symmetric tensors and exterior algebra.

320. Computer Methods in Mathematical Science I. (A) Staff.

Prerequisite(s): MATH 240 or concurrent and ability to program a computer, or permission of instructor.

Students will use symbolic manipulation software and write programs to solve problems in numerical quadrature, equation-solving, linear algebra and differential equations. Theoretical and computational aspects of the methods will be discussed along with error analysis and a critical comparison of methods.

321. Computer Methods in Mathematical Sciences II. (M) Staff.

Prerequisite(s): MATH 320.

Continuation of MATH 320.

340. (LGIC210) Discrete Mathematics I. (M) Staff. Prerequisite(s): MATH 114 or Math 115 or permission of the instructor.

Topics will be drawn from some subjects in combinatorial analysis with applications to many other branches of math and science: graphs and networks, generating functions, permutations, posets, asymptotics.

341. (LGIC220) Discrete Mathematics II. Staff. Prerequisite(s): Math 340/Logic 210 or permission of the instructor.

Topics will be drawn from some subjects useful in the analysis of information and computation: logic, set theory, theory of computation, number theory, probability, and basic cryptography.

350. Number Theory. (M) Staff.

Congruences, Diophantine equations, continued fractions, nonlinear congruences, and quadratic residues.

L/L 360. Advanced Calculus. (C) Staff.

Prerequisite(s): MATH 240.

Syllabus for MATH 360-361: a study of the foundations of the differential and integral calculus, including the real numbers and elementary topology, continuous and differentiable functions, uniform convergence of series of functions, and inverse and implicit function theorems. MATH 508-509 is a masters level version of this course.

L/L 361. Advanced Calculus. (C) Staff.

Prerequisite(s): MATH 360.

Continuation of MATH 360.

L/L 370. Algebra. (C) Staff.

Prerequisite(s): MATH 240. Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.

Syllabus for MATH 370-371: an introduction to the basic concepts of modern algebra. Linear algebra, eigenvalues and eigenvectors of matrices, groups, rings and fields. MATH 502-503 is a masters level version of this course.

L/L 371. Algebra. (C) Staff.

Prerequisite(s): MATH 370. Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.

Continuation of MATH 370.

410. (AMCS510, MATH299) Complex Analysis. (C) Staff.

Prerequisite(s): MATH 240 or permission of instructor.

Complex numbers, DeMoivre's theorem, complex valued functions of a complex variable, the derivative, analytic functions, the Cauchy-Riemann equations, complex integration, Cauchy's integral theorem, residues, computation of definite integrals by residues, and elementary conformal mapping.

420. (AMCS520) Ordinary Differential Equations. (C) Staff.

Prerequisite(s): MATH 240 permission of instructor.

After a rapid review of the basic techniques for solving equations, the course will discuss one or more of the following topics: stability of linear and nonlinear systems, boundary value problems and orthogonal functions, numerical techniques, Laplace transform methods.

425. (AMCS525) Partial Differential Equations. (A) Staff.

Prerequisite(s): MATH 240 or permission of instructor. Knowledge of PHYS 150-151 will be helpful.

Method of separation of variables will be applied to solve the wave, heat, and Laplace equations. In addition, one or more of the following topics will be covered: qualitative properties of solutions of various equations (characteristics, maximum principles, uniqueness theorems), Laplace and Fourier transform methods, and approximation techniques.

430. (AMCS530) Introduction to Probability. (M) Staff.

Prerequisite(s): MATH 240.

Random variables, events, special distributions, expectations, independence, law of large numbers, introduction to the central limit theorem, and applications.

432. (AMCS532) Game Theory. (C) Staff.

A mathematical approach to game theory, with an emphasis on examples of actual games. Topics will include mathematical models of games, combinatorial games, two person (zero sum and general sum) games, non-cooperating games and equilibria.

460. (MATH500) Topology. (M) Staff.

Prerequisite(s): MATH 240/241.

Point set topology: metric spaces and topological spaces, compactness, connectedness, continuity, extension theorems, separation axioms, quotient spaces, topologies on function spaces, Tychonoff theorem. Fundamental groups and covering spaces, and related topics.

465. (MATH501) Differential Geometry. (M) Staff.

Prerequisite(s): MATH 361 or Permission of the instructor.

Differential geometry of curves in the plane and in 3-space; gauge theories Surfaces in 3-space; The geometry of the Gauss map;ons. The language of Intrinsic geometry of surfaces; Geodesics; Moving frames; of vector bundles, The Gauss-Bonnet Theorem; Assorted additional topics.

480. Topics in Modern Math. (M) Staff.

Prerequisite(s): A year of analysis at the 300 level or above (for example, Mathematics 360-361,508-509); a semester of linear algebra at the 300 level or above (for example, Mathematics 370).

Mathematics 480 will open with a review of the basics of real analysis (brief or extended background requires). The

review will include: introduction of the real numbers through Dedekind cuts, continuity of real-valued functions on the real line; Cantor nested-interval principle, basic results for continuous functions, Maximum and Intermediate Value theorems, Heine-Borel Theorem, Uniform Continuity on closed intervals; metric spaces, convergence of sequences, Cauchy sequences, completeness, more general uniform continuity and intermediate value theorems; general topology, separation, compactness, product spaces, Tychonoff's Theorem.

Special topics in analysis: Weierstrass Polynomial Approximation Theorem, Bernstein polynomials and simultaneous approximations and derivatives, topics from divergent series, summation methods; r measure theory, the Lebesgue integral, L_p spaces, Holder, Minkowski, and Cauchy-Schwarz inequalities; basics of Functional Analysis, normed spaces, Banach spaces and Hilbert space, with examples (L_p spaces, continuous-functions spaces), Banach spaces and spectral theory, groups and Fourier transforms, Tauberian theorems; approximation theory, again, through the prism of functional analysis; extension of the polynomial approximation theorem (Stone-Weierstrass theorem), Muntz approximation theorem (by polynomials with preassigned powers), compact operators, the Spectral theorem, Stone's theorem (representations of the additive group of real numbers); Peter-Weyl theory (representations of compact groups). A selection from these topics as time and class preparation allow.

499. Supervised Study. (C) Staff.

Prerequisite(s): Permission of major adviser. Hours and credit to be arranged.

Study under the direction of a faculty member. Intended for a limited number of mathematics majors.

500. (MATH460) Geometry-Topology, Differential Geometry. (M) Staff.

Prerequisite(s): Math 240/241.

Point set topology: metric spaces and topological spaces, compactness, connectedness, continuity, extension theorems, separation axioms, quotient spaces, topologies on function spaces, Tychonoff theorem. Fundamental groups and covering spaces, and related topics.

501. (MATH465) Geometry-Topology, Differential Geometry. (M) Staff.

Prerequisite(s): Math 240, Math 312 (or 370), and Math 361 (or 508); or Math 500; or with the permission of the instructor.

The course moves from a study of extrinsic geometry (curves and surfaces in n -space)

to the intrinsic geometry of manifolds. After a review of vector calculus and a section on tensor algebra, we study manifolds and their intrinsic geometry, including metrics, connections, geodesics, and the Riemann curvature tensor. Topics include Eulerian curvature and Euler's theorems, the Gauss map and first/second fundamental forms, the Theorema Egregium, minimal surfaces in n -space; other topics as time permits.

L/L 502. Abstract Algebra. (A) Staff. Prerequisite(s): Math 240. Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513.

An introduction to groups, rings, fields and other abstract algebraic systems, elementary Galois Theory, and linear algebra -- a more theoretical course than Math 370.

L/L 503. Abstract Algebra. (B) Staff. Prerequisite(s): Math 502 or with the permission of the instructor. Students who have already received credit for either Math 370, 371, 502 or 503 cannot receive further credit for Math 312 or Math 313/513. Students can receive credit for at most one of Math 312 and Math 313/513. Continuation of Math 502.

504. Graduate Proseminar in Mathematics. (A) Staff.

This course focuses on problems from Algebra (especially linear algebra and multilinear algebra) and Analysis (especially multivariable calculus through vector fields, multiple integrals and Stokes theorem). The material is presented through student solving of problems. In addition there will be a selection of advanced topics which will be accessible via this material.

505. Graduate Proseminar in Mathematics. (B) Staff.

This course focuses on problems from Algebra (especially linear algebra and multilinear algebra) and Analysis (especially multivariable calculus through vector fields, multiple integrals and Stokes theorem). The material is presented through student solving of problems. In addition there will be a selection of advanced topics which will be accessible via this material.

L/L 508. Advanced Analysis. (A) Staff. Prerequisite(s): Math 240/241. Math 200/201 also recommended.

Construction of real numbers, the topology of the real line and the foundations of single variable calculus. Notions of convergence for sequences of functions. Basic approximation theorems for continuous functions and rigorous treatment of elementary transcendental functions. The course is intended to teach students how to read and construct rigorous formal proofs. A more theoretical course than Math 360.

L/L 509. Advanced Analysis. (B) Staff. Prerequisite(s): Math 508 or with the permission of the instructor. Linear algebra is also helpful.

Continuation of Math 508. The Arzela-Ascoli theorem. Introduction to the topology of metric spaces with an emphasis on higher dimensional Euclidean spaces. The contraction mapping principle. Inverse and implicit function theorems. Rigorous treatment of higher dimensional differential calculus. Introduction to Fourier analysis and asymptotic methods.

512. Advanced Linear Algebra. Staff. Prerequisite(s): Math 114 or 115. Math 512 covers Linear Algebra at the advanced level with a theoretical approach. Students can receive credit for at most one of Math 312 and Math 512.

Topics will include: Vector spaces, Basis and dimension, quotients; Linear maps and matrices; Determinants, Dual spaces and maps; Invariant subspaces, Cononical forms; Scalar products: Euclidean, unitary and symplectic spaces; Orthogonal and unitary operators; Tensor products and polylinear maps; Symmetric and skew-symmetric tensors and exterior algebra.

513. (MATH313) Computational Linear Algebra. Staff.

A number of important and interesting problems in a wide range of disciplines within computer science are solved by recourse to techniques from linear algebra. The goal of this course will be to introduce students to some of the most important and widely used algorithms in matrix computation and to illustrate how they are actually used in various settings. Motivating applications will include: the solution of systems of linear equations, applications matrix computations to modeling geometric transformations in graphics, applications of the Discrete Fourier Transform and related techniques in digital signal processing, the solution of linear least squares optimization problems and the analysis of systems of linear

differential equations. The course will cover the theoretical underpinnings of these problems and the numerical algorithms that are used to perform important matrix computations such as Gaussian Elimination, LU Decomposition and Singular Value Decomposition.

L/L 514. (AMCS514, MATH314) ADVANCED LINEAR ALGEBRA.

520. (MATH702) Selections from Algebra. (M) Staff. Corequisite(s): Math 502 or permission of the instructor.

Informal introduction to such subjects as homological algebra, number theory, and algebraic geometry.

521. Selections from Algebra. (M) Staff. Corequisite(s): Math 502 or permission of the instructor.

Informal introduction to such subjects as homological algebra, number theory, and algebraic geometry.

524. Topics in Modern Applied Algebra. (M) Staff. Prerequisite(s): Math 371 or Math 503.

Topics such as automata, finite state languages, Boolean algebra, computers and logical design will be discussed.

525. Topics in Modern Applied Algebra. (M) Staff. Prerequisite(s): Math 371 or Math 503.

Topics such as automata, finite state languages, Boolean algebra, computers and logical design will be discussed.

530. Mathematics of Finance. (M) Staff. Prerequisite(s): Math 240, Stat 430.

This course presents the basic mathematical tools to model financial markets and to make calculations about financial products, especially financial derivatives. Mathematical topics covered: stochastic processes, partial differential equations and their relationship. No background in finance is assumed.

540. (MATH730) Selections from Classical and Functional Analysis. (M) Staff. Corequisite(s): Math 508 or permission of the instructor.

Informal introduction to such subjects as compact operators and Fredholm theory, Banach algebras, harmonic analysis, differential equations, nonlinear functional analysis, and Riemann surfaces.

546. (STAT930) Probability Theory. (A) Staff.

The required background is (1) enough math background to understand proof techniques in real analysis (closed sets,

uniform convergence, fourier series, etc.) and (2) some exposure to probability theory at an intuitive level (a course at the level of Ross's probability text or some exposure to probability in a statistics class).

After a summary of the necessary results from measure theory, we will learn the probabilist's lexicon (random variables, independence, etc.). We will then develop the necessary techniques (Borel Cantelli lemmas, estimates on sums of independent random variables and truncation techniques) to prove the classical laws of large numbers. Next come Fourier techniques and the Central Limit Theorem, followed by combinatorial techniques and the study of random walks.

547. (STAT931) Stochastic Processes. (M) Staff. Prerequisite(s): Math 546/Stat 530 or the equivalent.

Markov chains, Markov processes, and their limit theory. Renewal theory. Martingales and optimal stopping. Stable laws and processes with independent increments. Brownian motion and the theory of weak convergence. Point processes.

548. Topics in Analysis. (M) Staff. Prerequisite(s): Math 360/361 and Math 370; or Math 508/509 and Math 502.

Topics may vary but typically will include an introduction to topological linear spaces and Banach spaces, and to Hilbert space and the spectral theorem. More advanced topics may include Banach algebras, Fourier analysis, differential equations and nonlinear functional analysis.

L/L 549. Topics in Analysis. (M) Staff. Prerequisite(s): Math 548 or with the permission of the instructor. Continuation of Math 548.

560. (MATH760) Selections from Geometry and Topology. (M) Staff. Corequisite(s): Math 500 or permission of the instructor.

Informal introduction to such subjects as homology and homotopy theory, classical differential geometry, dynamical systems, and knot theory.

561. Selections from Geometry and Topology. (M) Staff. Corequisite(s): Math 500 or permission of the instructor.

Informal introduction to such subjects as homology and homotopy theory, classical differential geometry, dynamical systems, and knot theory.

570. (LGIC310, PHIL410) Introduction to Logic and Computability. (M) Staff. Prerequisite(s): Math 371 or Math 503.

Propositional logic: semantics, formal deductions, resolution method. First order logic: validity, models, formal deductions; Godel's completeness theorem, Lowenheim-Skolem theorem: cut-elimination, Herbrand's theorem, resolution method. Computability: finite automata, Turing machines, Godel's incompleteness theorems. Algorithmically unsolvable problems in mathematics.

SM 571. (CIS 518, LGIC320, MATH671, PHIL412) Topics in Logic. (M) Staff. Prerequisite(s): Math 570 or with the permission of the instructor.

Continuation of Math 570.

575. Mathematical Theory of Computation. (M) Staff. Prerequisite(s): Math 574 or with the permission of the instructor.

Continuation of Math 574.

580. Combinatorial Analysis and Graph Theory. (M) Staff. Prerequisite(s): Permission of the instructor.

Generating functions, enumeration methods, Polya's theorem, combinatorial designs, discrete probability, extremal graphs, graph algorithms and spectral graph theory, combinatorial and computational geometry.

581. Combinatorial Analysis and Graph Theory. (M) Staff. Prerequisite(s): Math 580 or with the permission of the instructor.

Continuation of Math 580.

582. (AMCS701) Applied Mathematics and Computation. (M) Staff. Prerequisite(s): Math 240-241. Math 312, Math 360. Knowledge of Math 412 and Math 508 is recommended.

This course offers first-hand experience of coupling mathematics with computing and applications. Topics include: Random walks, randomized algorithms, information theory, coding theory, cryptography, combinatorial optimization, linear programming, permutation networks and parallel computing. Lectures will be supplemented by informal talks by guest speakers from industry about examples and their experience of using mathematics in the real world.

583. Applied Mathematics and Computation. (M) Staff. Prerequisite(s): Math 582 or with the permission of the instructor.

Continuation of Math 582.

584. (BE 584) The Mathematics of Medical Imaging and Measurement. (M) Staff. Prerequisite(s): Math 314, Math 508 and 509 or with permission of the instructor.

In the last 25 years there has been a revolution in image reconstruction techniques in fields from astrophysics to electron microscopy and most notably in medical imaging. In each of these fields one would like to have a precise picture of a 2 or 3 dimensional object which cannot be obtained directly. The data which is accessible is typically some collection of averages. The problem of image reconstruction is to build an object out of the averaged data and then estimate how close the reconstruction is to the actual object. In this course we introduce the mathematical techniques used to model measurements and reconstruct images. As a simple representative case we study transmission X-ray tomography (CT). In this context we cover the basic principles of mathematical analysis, the Fourier transform, interpolation and approximation of functions, sampling theory, digital filtering and noise analysis.

585. The Mathematics of Medical Imaging and Measurement. (M) Staff. Prerequisite(s): Math 584 or with the permission of the instructor.

Continuation of Math 584.

586. (BIOL586) Topics in Mathematical Biology. (M) Staff. Prerequisite(s): Math 430 or equivalent is required. Math 241 and 340 are recommended.

This course will cover various mathematical models and tools that are used to study modern biological problems. The specific emphasis will vary from year to year, but typically will include an introduction to stochastic processes and computational methods that arise in evolutionary biology and population genetics. No prior knowledge of biology is needed to take this course, but a strong background in probability and familiarity with algorithms and combinatorics will be assumed.

594. (PHYS500) Advanced Methods in Applied Mathematics. (M) Staff.

Prerequisite(s): Math 241 or Permission of Instructor. Physics 151 would be helpful for undergraduates.

Introduction to mathematics used in physics and engineering, with the goal of developing facility in classical techniques. Vector spaces, linear algebra, computation of eigenvalues and eigenvectors, boundary value problems, spectral theory of second order equations, asymptotic expansions, partial differential equations, differential operators and Green's functions, orthogonal functions, generating functions, contour integration, Fourier and Laplace transforms and an introduction to representation theory of $SU(2)$ and $SO(3)$. The course will draw on examples in continuum mechanics, electrostatics and transport problems.

599. Independent Study. (C)

600. Topology and Geometric Analysis. (A) Staff. Prerequisite(s): Math 500/501 or with the permission of the instructor.

Differentiable functions, inverse and implicit function theorems. Theory of manifolds: differentiable manifolds, charts, tangent bundles, transversality, Sard's theorem, vector and tensor fields and differential forms: Frobenius' theorem, integration on manifolds, Stokes' theorem in n dimensions, de Rham cohomology. Introduction to Lie groups and Lie group actions.

601. Topology and Geometric Analysis. (B) Staff. Prerequisite(s): Math 600 or with the permission of the instructor.

Covering spaces and fundamental groups, van Kampen's theorem and classification of surfaces. Basics of homology and cohomology, singular and cellular; isomorphism with de Rham cohomology. Brouwer fixed point theorem, CW complexes, cup and cap products, Poincare duality, Kunnet and universal coefficient theorems, Alexander duality, Lefschetz fixed point theorem.

602. Algebra. (A) Staff. Prerequisite(s): Math 370/371 or Math 502/503.

Group theory: permutation groups, symmetry groups, linear algebraic groups, Jordan-Holder and Sylow theorems, finite abelian groups, solvable and nilpotent groups, p -groups, group extensions. Ring theory: Prime and maximal ideals, localization, Hilbert basis theorem, integral extensions, Dedekind domains, primary decomposition, rings associated to affine varieties, semisimple rings, Wedderburn's theorem, elementary representation theory.

Linear algebra: Diagonalization and canonical form of matrices, elementary representation theory, bilinear forms, quotient spaces, dual spaces, tensor products, exact sequences, exterior and symmetric algebras. Module theory: Tensor products, flat and projective modules, introduction to homological algebra, Nakayama's Lemma. Field theory: separable and normal extensions, cyclic extensions, fundamental theorem of Galois theory, solvability of equations.

603. Algebra. (B) Staff. Prerequisite(s): Math 602 or with the permission of the instructor.

Continuation of Math 602.

SM 604. First Year Seminar in Mathematics. (A) Staff. Prerequisite(s): Open to first year Mathematics graduate students. Others need permission of the instructor.

This is a seminar for first year Mathematics graduate student, supervised by faculty. Students give talks on topics from all areas of mathematics at a level appropriate for first year graduate students. Attendance and preparation will be expected by all participants, and learning how to present mathematics effectively is an important part of the seminar.

605. First Year Seminar in Mathematics. (B) Staff. Prerequisite(s): Open to first year Mathematics graduate students. Others need permission of the instructor.

Continuation of Math 604.

608. (AMCS608) Analysis. (C) Staff. Prerequisite(s): Math 508-509.

Complex analysis: analyticity, Cauchy theory, meromorphic functions, isolated singularities, analytic continuation, Runge's theorem, \bar{d} -bar equation, Mittag-Leffler theorem, harmonic and sub-harmonic functions, Riemann mapping theorem, Fourier transform from the analytic perspective. Introduction to real analysis: Weierstrass approximation, Lebesgue measure in Euclidean spaces, Borel measures and convergence theorems, C_0 and the Riesz-Markov theorem, L_p -spaces, Fubini Theorem.

609. (AMCS609) Analysis. (C) Staff. Prerequisite(s): Math 608 or permission of the instructor.

Real analysis: general measure theory, outer measures and Cartheodory construction, Hausdorff measures, Radon-Nikodym theorem, Fubini's theorem, Hilbert space and L_2 -theory of the Fourier transform. Functional analysis: normed

linear spaces, convexity, the Hahn-Banach theorem, duality for Banach spaces, weak convergence, bounded linear operators, Baire category theorem, uniform boundedness principle, open mapping theorem, closed graph theorem, compact operators, Fredholm theory, interpolation theorems, L_p -theory for the Fourier transform.

618. Algebraic Topology, Part I. (A) Staff. Prerequisite(s): Math 600/601 or with the permission of the instructor.

Homotopy groups, Hurewicz theorem, Whitehead theorem, spectral sequences. Classification of vector bundles and fiber bundles. Characteristic classes and obstruction theory.

619. Algebraic Topology, Part I. (B) Staff. Prerequisite(s): Math 618 or with the permission of the instructor.

Rational homotopy theory, cobordism, K -theory, Morse theory and the h-cobordism theorem. Surgery theory.

634. ARITHMETIC GEOMETRY.

642. Topics in Partial Differential Equations. Staff. Prerequisite(s): Math 608, 609. This course will not presume courses in Partial Differential Equations or Differential Geometry. Background will be covered in the course.

Problems in differential geometry, as well as those in physics and engineering, inevitable involve partial derivatives. This course will be an introduction to these problems and techniques. We will use P.D.E. as a tool. Some of the applications will be small, some large. The proof of the Hodge Theorem will be a small application. Discussion of the Yamabe problem and Ricci flow (used to prove the Poincare Conjecture) will be larger.

SM 878. Probability and Algorithm Seminar. Staff.

Seminar on current and recent literature in probability and algorithm.

SM 879. Seminar on additive combinatorics. Staff.

Advanced Graduate Courses

612. Selections from Algebra. (M) Staff. Corequisite(s): MATH 600 and 602.

Informal introduction to such subjects as homological algebra, number theory, and algebraic geometry.

Algebra

620. Algebraic Number Theory. (M) Staff. Prerequisite(s): Math 602/603.

Dedekind domains, local fields, basic ramification theory, product formula, Dirichlet unit theory, finiteness of class numbers, Hensel's Lemma, quadratic and cyclotomic fields, quadratic reciprocity, abelian extensions, zeta and L-functions, functional equations, introduction to local and global class field theory. Other topics may include: Diophantine equations, continued fractions, approximation of irrational numbers by rationals, Poisson summation, Hasse principle for binary quadratic forms, modular functions and forms, theta functions.

621. Algebraic Number Theory. (M) Staff. Prerequisite(s): Math 620 or with the permission of the instructor.

Continuation of Math 620.

622. Complex Algebraic Geometry. (M) Staff. Prerequisite(s): Math 602/603 and Math 609.

Algebraic geometry over the complex numbers, using ideas from topology, complex variable theory, and differential geometry. Topics include: Complex algebraic varieties, cohomology theories, line bundles, vanishing theorems, Riemann surfaces, Abel's theorem, linear systems, complex tori and abelian varieties, Jacobian varieties, currents, algebraic surfaces, adjunction formula, rational surfaces, residues.

623. Complex Algebraic Geometry. (M) Staff. Prerequisite(s): Math 622 or with the permission of the instructor.

Continuation of Math 622.

624. Algebraic Geometry. (M) Staff. Prerequisite(s): Math 602/603.

Algebraic geometry over algebraically closed fields, using ideas from commutative algebra. Topics include: Affine and projective algebraic varieties, morphisms and rational maps, singularities and blowing up, rings of functions, algebraic curves, Riemann Roch theorem, elliptic curves, Jacobian varieties, sheaves, schemes, divisors, line bundles, cohomology of varieties, classification of surfaces.

625. Algebraic Geometry. (M) Staff. Prerequisite(s): Math 624 or with the permission of the instructor.

Continuation of Math 624.

626. Commutative Algebra. (M) Staff. Prerequisite(s): Math 602/603.

Topics in commutative algebra taken from the literature. Material will vary from year to year depending upon the instructor's interests.

627. Commutative Algebra. (M) Staff. Prerequisite(s): Math 602/603.

Topics in commutative algebra taken from the literature. Material will vary from year to year depending upon the instructor's interests.

628. Homological Algebra. (M) Staff. Prerequisite(s): Math 602/603.

Complexes and exact sequences, homology, categories, derived functors (especially Ext and Tor). Homology and cohomology arising from complexes in algebra and geometry, e.g. simplicial and singular theories, Cech cohomology, de Rham cohomology, group cohomology, Hochschild cohomology. Projective resolutions, cohomological dimension, derived categories, spectral sequences. Other topics may include: Lie algebra cohomology, Galois and etale cohomology, cyclic cohomology, l-adic cohomology. Algebraic deformation theory, quantum groups, Brauer groups, descent theory.

629. Homological Algebra. (M) Staff. Prerequisite(s): Math 628 or with the permission of the instructor.

Continuation of Math 628.

Algebraic and Differential Topology

630. Differential Topology. (M) Staff. Prerequisite(s): Math 600/601.

Fundamentals of smooth manifolds, Sard's theorem, Whitney's embedding theorem, transversality theorem, piecewise linear and topological manifolds, knot theory. The instructor may elect to cover other topics such as Morse Theory, h-cobordism theorem, characteristic classes, cobordism theories.

631. Differential Topology. (M) Staff. Prerequisite(s): Math 630 or with the permission of the instructor.

Continuation of Math 630.

632. Topological Groups. (M) Staff. Prerequisite(s): Math 600/601 and Math 602/603.

Fundamentals of topological groups. Haar measure. Representations of compact groups. Peter-Weyl theorem. Pontrjagin duality and structure theory of locally compact abelian groups.

633. Topological Groups. (M) Staff. Prerequisite(s): Math 632 or with the permission of the instructor.

Continuation of Math 632.

638. Algebraic Topology, Part II. (C) Staff. Prerequisite(s): Math 618/619.

Theory of fibre bundles and classifying spaces, fibrations, spectral sequences, obstruction theory, Postnikov towers, transversality, cobordism, index theorems, embedding and immersion theories, homotopy spheres and possibly an introduction to surgery theory and the general classification of manifolds.

639. Algebraic Topology, Part II. (C) Staff. Prerequisite(s): Math 638 or with the permission of the instructor.

Continuation of Math 638.

Classical Analysis

640. Ordinary Differential Equations. (M) Staff. Prerequisite(s): Math 508/509.

The general existence and uniqueness theorems for systems of ordinary differential equations and the dependence of solutions on initial conditions and parameters appearing in the equation. The proofs of existence and uniqueness are related to numerical algorithms for finding approximate solutions for systems of ODE's. We consider special properties of constant coefficient and linear systems. We then present the theory of linear equations with analytic coefficients, the theories of singular points, indicial roots and asymptotic solutions. We then turn to boundary value problems for second order equations with an emphasis on the eigenfunction expansions associated with self adjoint boundary conditions and the Sturm comparison theory. The remaining time is devoted to topics; for example: Hamiltonian systems and symplectic geometry, singular boundary value problems, perturbation theory, the Lyapounov-Schmidt theory and the Poincare-Bendixson theorem, the equations of mathematical physics, the calculus of variations, symmetries of ODE's and transformation groups.

641. Ordinary Differential Equations. (M) Staff. Prerequisite(s): Math 640 or with the permission of the instructor.

Continuation of Math 640

644. Partial Differential Equations. (M) Staff. Prerequisite(s): Math 600/601, Math 608/609.

Subject matter varies from year to year. Some topics are: the classical theory of the

wave and Laplace equations, general hyperbolic and elliptic equations, theory of equations with constant coefficients, pseudo-differential operators, and non-linear problems. Sobolev spaces and the theory of distributions will be developed as needed.

645. Partial Differential Equations. (M) Staff. Prerequisite(s): Math 600/601, Math 608/609.

Subject matter varies from year to year. Some topics are: the classical theory of the wave and Laplace equations, general hyperbolic and elliptic equations, theory of equations with constant coefficients, pseudo-differential operators, and nonlinear problems. Sobolev spaces and the theory of distributions will be developed as needed.

646. Several Complex Variables. (M) Staff. Prerequisite(s): Math 600/601, Math 608/609.

Analytic spaces, Stein spaces, approximation theorems, embedding theorems, coherent analytic sheaves, Theorems A and B of Cartan, applications to the Cousin problems, and the theory of Banach algebras, pseudoconvexity and the Levi problems.

647. Several Complex Variables. (M) Staff. Prerequisite(s): Math 646 or with the permission of the instructor. Continuation of Math 646.

Functional Analysis

650. Lie Algebras. (M) Staff. Prerequisite(s): Math 602/603.

Connections with Lie groups, universal enveloping algebras, Poincare-Birkhoff-Witt Theorem, Lie and Engels theorems, free Lie algebras, Killing form, semisimple algebras, root systems, Dynkin diagrams, classification of complex simple Lie algebras, representation theory of Lie algebras, cohomology of Lie algebras.

651. Lie Algebras. (M) Staff. Prerequisite(s): Math 650 or with the permission of the instructor. Continuation of Math 650.

652. Operator Theory. (M) Staff. Subject matter may include spectral theory of operators in Hilbert space, C^* -algebras, von Neumann algebras.

653. Operator Theory. (M) Staff. Subject matter may include spectral theory of operators in Hilbert space, C^* -algebras, von Neumann algebras.

654. Lie Groups. (M) Staff. Prerequisite(s): Math 600/601, Math 602/603.

Connection of Lie groups with Lie algebras, Lie subgroups, exponential map. Algebraic Lie groups, compact and complex Lie groups, solvable and nilpotent groups. Other topics may include relations with symplectic geometry, the orbit method, moment map, symplectic reduction, geometric quantization, Poisson-Lie and quantum groups.

655. Lie Groups. (M) Staff. Prerequisite(s): Math 654 or with the permission of the instructor. Continuation of Math 654.

656. Representation of Continuous Groups. (M) Staff.

Possible topics: harmonic analysis on locally compact abelian groups; almost periodic functions; direct integral decomposition theory, Types I, II and III: induced representations, representation theory of semisimple groups.

657. (PHYS657) Representation of Continuous Groups. (M) Staff.

Possible topics: harmonic analysis on locally compact abelian groups; almost periodic functions; direct integral decomposition theory, Types I, II and III: induced representations, representation theory of semisimple groups.

Differential Geometry

660. Differential Geometry. (M) Staff. Prerequisite(s): Math 600/601, Math 602/603.

Riemannian metrics and connections, geodesics, completeness, Hopf-Rinow theorem, sectional curvature, Ricci curvature, scalar curvature, Jacobi fields, second fundamental form and Gauss equations, manifolds of constant curvature, first and second variation formulas, Bonnet-Myers theorem, comparison theorems, Morse index theorem, Hadamard theorem, Preissmann theorem, and further topics such as sphere theorems, critical points of distance functions, the soul theorem, Gromov-Hausdorff convergence.

661. Differential Geometry. (M) Staff. Prerequisite(s): Math 660 or with the permission of the instructor. Continuation of Math 660.

Other Subjects

SM 670. (LGIC320, PHIL412, PHIL416, PHIL516) Topics in Logic. (M) Staff. Prerequisite(s): Math 570/571. Discusses advanced topics in logic.

SM 671. (CIS 518, LGIC320, MATH571, PHIL412) Topics in Logic. (M) Staff. Prerequisite(s): Math 570/571. Discusses advanced topics in logic.

676. (CIS 610) Advanced Geometric Methods in Computer Science. (M) Staff. Prerequisite(s): Math 312 or Math 412, or with the permission of the instructor.

Advanced geometric methods used in geometric modeling, computer graphics, computer vision, and robotics.

680. Applied Linear Analysis. (M) Staff. Prerequisite(s): Math 241 and one semester of: Math 360/361 or Math 508/509.

Application of techniques from linear algebra to real problems in economics, engineering, physics, etc. and the difficulties involved in their implementation. Particular emphasis is placed on solving equations, the eigenvalue problem for symmetric matrices and the metric geometry of spaces of matrices. Applications to problems such as options pricing, image reconstruction, airplane and ship design, oil prospecting, etc. (these topics will vary from year to year). Analysis of the numerical algorithms available to solve such problems, rates of convergence, accuracy and stability.

681. Applied Linear Analysis. (M) Staff. Prerequisite(s): Math 680 or with the permission of the instructor. Continuation of Math 680.

690. Topics in Mathematical Foundations of Program Semantics. (M) Staff.

This course discusses advanced topics in mathematical foundations of semantics of programming languages and programming structures.

"What is to distinguish a digital dollar when it is as easily reproducible as the spoken word? How do we converse privately when every syllable is bounced off a satellite and smeared over an entire continent? How should a bank know that it really is Bill Gates requesting from his laptop in Fiji a transfer of \$100,000,.....,000 to another bank? Fortunately, the mathematics of cryptography can help. Cryptography provides techniques for keeping information secret, for determining

that information has not been tampered with, and for determining who authored pieces of information." (From the Foreword by R. Rivest to the "Handbook of Applied Cryptography" by Menezes, van Oorschot, and Vanstone.)

Textbook: Douglas R. Stinson. "Cryptography: Theory and Practice". Publisher: Chapman & Hall/CRC; 3 edition (November 1, 2005) ISBN: 1584885084.

691. Topics in Mathematical Foundations of Program Semantics. (M) Staff.

The course discusses advanced topics in mathematical foundations of semantics of programming languages and programming structures.

692. Numerical Analysis. (M) Staff.
Prerequisite(s): Math 320/321.

A study of numerical methods for matrix problems, ordinary and partial differential equations, quadrature and the solution of algebraic or transcendental equations. Emphasis will be on the analysis of those methods which are particularly suited to automatic high-speed computation.

693. Numerical Analysis. (M) Staff.
Prerequisite(s): Math 692 or with the permission of the instructor.
Continuation of Math 692.

694. (PHYS654) Mathematical Foundations of Theoretical Physics. (M) Staff.

Selected topics in mathematical physics, such as mathematical methods of classical mechanics, electrodynamics, relativity, quantum mechanics and quantum field theory.

695. (PHYS655) Mathematical Foundations of Theoretical Physics. (M) Staff.

Selected topics in mathematical physics, such as mathematical methods of classical mechanics, electrodynamics, relativity, quantum mechanics and quantum field theory.

696. (PHYS656) Topics in Mathematical Physics and String Theory. (M) Staff. Prerequisite(s): Math 694 or permission of the instructor.

This interdisciplinary course discusses advanced topics in mathematical physics. Topics may include elliptic operators, heat kernels, complexes and the Atiyah-Singer index theorem, Feynman graphs and anomalies, computing Abelian and non-Abelian anomalies, and the relation of anomalies to the index theorem.

697. (PHYS657) Topics in Mathematical Physics and String Theory. (M) Staff. Prerequisite(s): Math 696 or permission of the instructor.

Continuation of Math 696. Topics may include the family index theorem, equivariant cohomology and loop spaces, the homological algebra of BRST invariance and the Wess-Zumino consistency condition, the descent equations, and worldsheet anomalies in string theory.

Advanced Topics Courses

702. (MATH520) Topics in Algebra. (M) Staff.

Topics from the literature. The specific subjects will vary from year to year.

703. Topics in Algebra. (M) Staff.

Topics from the literature. The specific subjects will vary from year to year.

720. Advanced Number Theory. (M) Staff. Prerequisite(s): Math 620/621.

Ramification theory, adeles and ideles, Tate's thesis, group cohomology and Galois cohomology, class field theory in terms of ideles and cohomology, Lubin-Tate formal groups, Artin and Swan conductors, central simple algebras over local and global fields, general Hasse principles. Other topics may include the following: zero-dimensional Arakelov theory, Tate duality, introduction to arithmetic of elliptic curves, local and global epsilon factors in functional equations, p-adic L-functions and Iwasawa theory, modular forms and functions and modular curves.

721. Advanced Number Theory. (M) Staff. Prerequisite(s): Math 720 or with the permission of the instructor.

Continuation of Math 720.

724. Topics in Algebraic Geometry. (M) Staff. Prerequisite(s): Either Math 622/623 or Math 624/625.

Topics from the literature. The specific subjects will vary from year to year.

725. Topics in Algebraic Geometry. (M) Staff. Prerequisite(s): Either Math 622/623 or Math 624/625.

Topics from the literature. The specific subject will vary from year to year.

730. (MATH560) Topics in Algebraic and Differential Topology. (M) Staff. Prerequisite(s): Math 618/619.

Topics from the literature. The specific subjects will vary from year to year.

731. Topics in Algebraic and Differential Topology. (M) Staff.

Prerequisite(s): Math 618/619.

Topics from the literature. The specific subjects will vary from year to year.

748. Topics in Classical Analysis. (M) Staff. Prerequisite(s): Math 608 and Math 609 and permission from the instructor.

Harmonic analysis in Euclidean space, Riemann surfaces, Discontinuous groups and harmonic analysis in hyperbolic space, Pseudodifferential operators and index theorems, Variational methods in non-linear PDE, Hyperbolic equations and conservation laws, Probability and stochastic processes, Geometric measure theory, Applications of analysis to problems in differential geometry. The specific subjects will vary from year to year.

749. Topics in Classical Analysis. (M) Staff. Prerequisite(s): Math 748 or with the permission of the instructor.

Continuation of Math 748.

750. Topics in Functional Analysis. (M) Staff.

Topics from the literature. The specific subjects will vary from year to year.

751. Topics in Functional Analysis. (M) Staff.

Topics from the literature. The specific subjects will vary from year to year.

752. Topics in Operator theory. (M) Staff.

Topics from the literature. The specific subjects will vary from year to year.

753. Topics in Operator Theory. (M) Staff.

Topics from the literature. The specific subjects will vary from year to year.

760. (MATH560) Topics in Differential Geometry. (M) Staff. Prerequisite(s): Math 660/661.

Topics from the literature. The specific subjects will vary from year to year.

761. Topics in Differential Geometry. (M) Staff. Prerequisite(s): Math 660/661.

Topics from the literature. The specific subjects will vary from year to year.

794. Physics for Mathematicians. (M) Staff. Prerequisite(s): Math 694. Corequisite(s): Math 695.

This course is designed to bring mathematicians with no physics

background up to speed on the basic theories of physics: mechanics,relativity,quantum mechanics,classical fields,quantum field theory, the standard model,strings,superstrings,and M-theory.

Graduate Seminars

SM 820. Algebra Seminar. (M) Staff.
Seminar on current and recent literature in algebra.

SM 821. Algebra seminar. (M) Staff.
Seminar on current and recent literature in algebra.

SM 824. Seminar in Algebra, Algebraic Geometry, Number Theory. (M) Staff.
Seminar on current and recent literature in algebra, algebraic geometry, and number theory.

SM 825. Seminar in Algebra, Algebraic Geometry, Number Theory. (M) Staff.
Seminar on current and recent literature in algebra, algebraic geometry, and number theory.

SM 830. Geometry-Topology Seminar. (M) Staff.
Seminar on current and recent literature in geometry-topology

SM 831. Geometry-Topology Seminar. (M) Staff.
Seminar on current and recent literature in geometry-topology

SM 840. Analysis Seminar. (M) Staff.
Seminar on current and recent literature in analysis.

SM 841. Analysis Seminar. (M) Staff.
Seminar on current and recent literature in analysis.

SM 844. Seminar in Partial Differential Equations. (M) Staff.
Seminar on current and recent literature in partial differential equations.

SM 845. Seminar in Partial Differential Equations. (M) Staff.
Seminar on current and recent literature in partial differential equations.

SM 850. Seminar in Functional Analysis. (M) Staff.
Seminar on current and recent literature in functional analysis.

SM 851. Seminar in Functional Analysis. (M) Staff.
Seminar on current and recent literature in functional analysis.

SM 861. Seminar in Riemannian Geometry. (M) Staff.
Seminar on current and recent literature in Riemannian geometry.

SM 870. Logic Seminar. (M) Staff.
Seminar on current and recent literature in logic.

SM 871. Logic Seminar. (M) Staff.
Seminar on current and recent literature in logic.

SM 872. Seminar in Logic and Computation. (M) Staff.
Seminar on current and recent literature in logic and computation.

SM 873. Seminar in Logic and Computation. (M) Staff.
Seminar on current and recent literature in logic and computation.

SM 880. Combinatorics Seminar. (M) Staff.
Seminar on current and recent literature in combinatorics.

SM 881. Combinatorics Seminar. (M) Staff.
Seminar on current and recent literature in combinatorics.

MECHANICAL ENGINEERING AND APPLIED MECHANICS (EG) {MEAM}

091. Shop Tr: Manual Milling. (C)

Fundamental principles of manual milling of metals, including hands-on training in the machine shop.

092. Shop Tr: Manual Turning. (C)

Fundamental principles of manual turning of metals using a lathe, including hands-on training in the machine shop.

093. Shop Tr: Hybrid Milling.

Building upon the basics covered in 091, this intermediate-level course includes detailed operation sequencing, fixture design, and hands-on conversational CNC programming for the ProtoTrak Hybrid Mill.

094. Tr: CNC Milling/solidcam. (C)

Building upon proficiency in 091 and 093, this hands-on course covers the details of full computer-controlled machining using SolidCAM and the Haas MiniMill.

095. Shop Tr: CNC Turning. (C)

Building upon the basics of 092, this course explores advanced computer-controlled turning using SolidCAM and the Haas TL-1.

099. Independent Study. (C) Open to all students. A maximum of 2 c.u. of MEAM 099 may be applied toward the B.A.S. or B.S.E. degree requirements.

An opportunity for the student to become closely associated with a professor in (1) a research effort to develop research skills and technique and/or (2) to develop a program of independent in-depth study in a subject area in which the professor and student have a common interest. The challenge of the task undertaken must be consistent with the student's academic level. To register for this course, the student and professor jointly submit a detailed proposal. Subject to the approval of the MEAM Undergraduate Curriculum Chair.

L/L 101. Introduction to Mechanical Design. (C) This course is available to all Engineering majors.

This hands-on, project-based course covers the fundamentals of the modern mechanical design process, from needfinding and brainstorming to the basics of computerized manufacturing and rapid prototyping.

Topics include: product definition (needfinding, observation, sketching, and brainstorming); computer-aided design (part creation, assemblies, and animation using SolidWorks); fundamental engineering design practices (material selection, dimensioning, tolerances, etc.); basic computer simulation and analysis; and rapid prototyping (laser cutter, 3-D fused-deposition modeling, and an introduction to computer-controlled machining).

L/R 110. Introduction to Mechanics.

(A) Corequisite(s): MATH 104 (The Engineering section of this class is strongly recommended) and MEAM 147.

This lecture course and a companion laboratory course (MEAM 147) build upon the concepts of Newtonian (classical) mechanics and their application to engineered systems. This course introduces students to mechanical principles that are the foundation of upper-level engineering courses including MEAM 210 and 211. The three major parts of this course are: I. Vector Mechanics; II. Statics and Structures; and III. Kinematics and Dynamics. Topics include: vector analysis, statics of rigid bodies, introduction to deformable bodies, friction, kinematics of motion, work and energy, and dynamics of particles. Case studies will be introduced, and the role of Newtonian mechanics in emerging applications including bio- and nano- technologies will be discussed.

147. Introduction to Mechanics Lab.

(A) Corequisite(s): MEAM 110.

This half-credit laboratory class is a companion to the Introduction to Mechanics lecture course (MEAM 110). It investigates the concepts of Newtonian (classical) mechanics through weekly hands-on experiments, emphasizing connections between theoretical principles and practical applications in engineering. In addition to furthering their understanding about the workings of the physical world, students will improve their skills at conducting experiments, obtaining reliable data, presenting numerical results, and extracting meaningful information from such numbers.

L/L 201. Machine Design and Manufacturing. (B)

Prerequisite(s): MEAM 101; MEAM 210 or equivalent as co/pre-requisite (or permission of the instructor).

Building upon the fundamentals of mechanical design taught in MEAM 101, this hands-on, project-based course provides students with the knowledge and skills necessary to design, analyze,

and test fully-functional mechanical systems. Topics covered include an introduction to machine elements, analysis of the mechanics of machining, manufacturing technology, precision fabrication (milling, turning, and computer-controlled machining), metrology, tolerances, cutting-tool fundamentals and engineering materials. Enrollment is limited.

L/R 203. Thermodynamics I. (B)

Prerequisite(s): Math 104 and Math 114.

Thermodynamics is the study of the fundamental concepts underlying the conversion of energy in such mechanical systems as internal and external combustion engines (including automobile and aircraft engines), compressors, pumps, refrigerators, and turbines. This course is intended for students in mechanical engineering, chemical engineering, materials science, physics and other fields. The topics include: Basic definitions, microscopic and macroscopic points of view; properties of pure substances and reversibility and irreversibility, the thermodynamic temperature scale, entropy, availability, second law analysis, power and refrigeration cycles and their engineering applications.

L/R 210. Statics and Strength of Materials. (A)

Prerequisite(s): MEAM 110/147 or Physics 150. Corequisite(s): Math 240 and MEAM 247 are strongly recommended.

This course is primarily intended for students in mechanical engineering, but may also be of interest to students in materials science and other fields. It continues the treatment of statics of rigid bodies begun in MEAM 110/PHYS 150 and progresses to the treatment of deformable bodies and their response to loads. The concepts of stress, strain, and linearly elastic response are introduced and applied to the behavior of rods, shafts, beams and other mechanical components. The failure and design of mechanical components are discussed.

L/R 211. Engineering Mechanics:

Dynamics. (B) Prerequisite(s): MEAM 210. Corequisite(s): MATH 241 or ENM 251 and ENGR 105 or equivalent.

This course introduces the basic concepts in kinematics and dynamics that are necessary to understand, analyze and design mechanisms and machines. These concepts are also fundamental to the modeling and analysis of human movement, biomechanics, animation of synthetic human models and robotics. The topics covered include: Particle dynamics using

energy and momentum methods of analysis; Dynamics of systems of particles; Impact; Systems of variable mass; Kinematics and dynamics of rigid bodies in plane motion; Computer-aided dynamic simulation and animation.

L/L 245. Introduction to Flight. (A)
Prerequisite(s): PHYS 150 or MEAM 110/147. Corequisite(s): MATH 240.

Basic concepts: pressure, density, velocity, forces. The standard atmosphere. Introduction to low speed aerodynamics. Airfoils, wings, and other aerodynamic shapes. Aircraft performance. Aircraft stability and control. Aircraft propulsion.

L/L 247. Mechanical Engineering Laboratory I. (A) Prerequisite(s): Sophomore standing in engineering. Corequisite(s): MEAM 210 strongly recommended.

This is the first of a two semester sophomore level laboratory sequence that students complete over the fall and spring semesters. The course teaches the principles of experimentation and measurement as well as analysis and application to design. This fall semester course follows closely with MEAM 210, involving experiments to explore the principles of statics and strength of materials.

L/L 248. Mechanical Engineering Lab I. (B) Prerequisite(s): Sophomore standing in engineering. Corequisite(s): MEAM 203 and MEAM 211 are strongly recommended.

This is the second of a two-semester sophomore level laboratory sequence that students complete over the fall and spring semesters. The course teaches the principles of experimentation and measurement as well as analysis and application to design. The spring semester course follows closely with MEAM 203 and MEAM 211, expanding upon the principles of experimentation, measurement, analysis, and design of systems through hands-on laboratories and projects in thermodynamics and dynamics.

L/R 302. Fluid Mechanics. (A)
Prerequisite(s): MATH 241 or ENM 251 and PHYS 150 or MEAM 110/147.

Physical properties; fluid statics; Bernoulli equation; fluid kinematics; conservation laws and finite control-volume analysis; conservation laws and differential analysis; inviscid flow; The Navier-Stokes equation and some exact solutions; similitude, dimensional analysis, and modeling; flow in pipes and channels; boundary layer theory; lift and drag.

L/R 321. Vibrations of Mechanical Systems. (B) Prerequisite(s): MATH 241 or ENM 251 and MEAM 211.

This course teaches the fundamental concepts underlying the dynamics of vibrations for single-degree of freedom, multi-degree and infinite-degree of freedom mechanical systems. The course will focus on Newton's Force Methods, Virtual-Work Methods, and Lagrange's Variation Methods for analyzing problems in vibrations. Students will learn how to analyze transient, steady state and forced motion of single and multi-degree of freedom linear and non-linear systems. The course teaches analytical solution techniques for linear systems and practical numerical and simulation methods for analysis and design of nonlinear systems.

L/R 333. Heat and Mass Transfer. (B)
Prerequisite(s): MEAM 203 and MEAM 302.

This course covers fundamentals of heat and mass transfer and applications to practical problems in energy conversion and conservation. Emphasis will be on developing a physical and analytical understanding of conductive, convective, and radiative heat transfer, as well as design of heat exchangers and heat transfer with phase change. Topics covered will include: types of heat transfer processes, their relative importance, and the interactions between them, solutions of steady state and transient state conduction, emission and absorption of radiation by real surfaces and radiative transfer between surfaces, heat transfer by forced and natural convection owing to flow around bodies and through ducts, analytical solutions for some sample cases and applications of correlations for engineering problems. Students will develop an ability to apply governing principles and physical intuition to solve problems.

L/L 347. Mechanical Engineering Design Laboratory. (A) Prerequisite(s): Junior standing in engineering.

This is a junior level laboratory course. The course teaches the principles of design and measurement systems including basic electromechanical systems. It follows MEAM 302 and MEAM 321 including experiments in fluid mechanics, and vibration in the design of mechanical systems.

L/L 348. Mechanical Engineering Design Laboratory. (B) Prerequisite(s): Junior standing in engineering.

This course is a junior lab which follows MEAM 333 Heat Transfer and MEAM 354 Mechanics of Materials with design

projects based on those topics. In the broader context of design/independent skill development, this course also introduces open ended topics, wider design options, and introduces project planning and management.

L/R 354. Mechanics of Solids. (A)
Prerequisite(s): MEAM 210 or equivalent, BE200 or permission of instructor.

This course builds on the fundamentals of solid mechanics taught in MEAM 210 and addresses more advanced problems in strength of materials. The students will be exposed to a wide array of applications from traditional engineering disciplines as well as emerging areas such as biotechnology and nanotechnology. The methods of analysis developed in this course will form the cornerstone of machine design and also more advanced topics in the mechanics of materials.

404. Materials in Mechanical Design. (C)

This course covers materials concepts that are essential in mechanical design. The properties, selection, and processing of a wide range of materials (including metals, ceramics, polymers, composites) are examined from both a fundamental and practical perspective. The relationship of material properties to bonding and microstructure of materials are discussed. An emphasis is placed on mechanical properties of materials, including modulus, strength, fracture, fatigue, wear, and creep. Design-based case studies are used to illustrate the selection of materials and processes.

405. (MEAM505, MSE 405, MSE 505) Mechanical Properties of Macro/Nanoscale Materials. (A)

The application of continuum and microstructural concepts to consideration of the mechanics and mechanisms of flow and fracture in metals, polymers and ceramics. The course includes a review of tensors and elasticity with special emphasis on the effects of symmetry on tensor properties. Then deformation, fracture and degradation (fatigue and wear) are treated, including mapping strategies for understanding the ranges of material properties.

410. (MEAM510) Design of Mechatronic Systems. (A)

Prerequisite(s): Junior or Senior standing in MEAM and a first course in Programming.

In many modern systems, mechanical elements are tightly coupled with electronic components and embedded computers. Mechatronics is the study of how these domains are interconnected, and this hands-

on, project-based course provides an integrated introduction to the fundamental components within each of the three domains, including: mechanical elements (prototyping, materials, actuators and sensors, transmissions, and fundamental kinematics), electronics(basic circuits, filters, op amps, discrete logic, and interfacing with mechanical elements), and computing (interfacing with the analog world, microprocessor technology, basic control theory, and programming).

415. (IPD 515, OIDD415) Product Design. (C)

This course provides tools and methods for creating new products. The course is intended for students with a strong career interest in new product development, entrepreneurship, and/or technology development. The course follows an overall product design methodology, including the identification of customer needs, generation of product concepts, prototyping, and design-for-manufacturing. Weekly student assignments are focused on the design of a new product and culminate in the creation of a prototype. The course is open to juniors and seniors in SEAS or Wharton.

445. Mechanical Engineering Design Projects. (A) Prerequisite(s): Junior standing.

This capstone design project course is required of all mechanical engineering students. Student teams will design and test complex mechanical systems that address a societal or consumer need. Projects are devised by the team, sponsored by industry, or formulated by Penn professors. Each project is approved by the instructor and a faculty advisor. Topics treated in the course include project planning, prototyping, patent and library searches, intellectual property, ethics, and technical writing and presentations. The work is spread over MEAM 445 and MEAM 446.

446. Mechanical Engineering Design Projects. (B)

This is the second course in the two course sequence involving the capstone design project. See MEAM 445 for course description.

454. (MEAM554) Mechanics of Materials. (M) Prerequisite(s): MEAM 210 and/or MEAM 354, MATH 240, 241 or ENM 251.

This course is an upper level course that discusses the behavior of materials, the selection of materials in mechanical components, and the mechanics of

deformable bodies. It is intended for students interested in material science, mechanical engineering, and civil engineering. The topics covered include: Stress. Strain. Principal Stresses. Compatibility. Elastic stress-strain relations. Strain energy. Plane strain. Plane stress. Rods and trusses. Bending of beams. Torsion. Rotating disks. Castigliano's Theorem. Dummy loads. Principle of virtual work. The Rayleigh-Ritz Methods. Introduction to the finite element method. Non-linear material behavior. Yielding. Failure.

455. (BE 455, MEAM544) Continuum Biomechanics. (A)

Continuum mechanics with applications to biological systems. Fundamental engineering conservation laws are introduced and illustrated using biological and non-biological examples. Kinematics of deformation, stress, and conservation of mass, momentum, and energy. Constitutive equations for fluids, solids, and intermediate types of media are described and applied to selected biological examples. Class work is complemented by computational laboratory experiences.

502. Energy Engineering. (A)

Prerequisite(s): MEAM 203 or equivalent, and MEAM 333 or equivalent (Heat Transfer, that could be taken concurrently with MEAM 402).

Quantitative introduction to the broad area of energy engineering, from basic principles to applications. The focus is on the science and engineering of power generation. The course includes a review of energy resources and consumption, power cycles, combined cycles, and co-generation, nuclear energy and wastes, solar thermal and photovoltaic energy, and wind power. Additional energy conversion topics including energy storage and geothermal, thermoelectric, hydroelectric and biomass power will be briefly discussed.

503. Direct Energy Conversion: from Macro to Nano. (C) Prerequisite(s):

Basics of thermodynamics (MEAM 203 or equivalent), Basics of heat transfer (MEAM 333 or equivalent).

The course focuses on devices that convert thermal, solar, or chemical energy directly to electricity, i.e., without intermediate mechanical machinery such as a turbine. A variety of converters with sizes ranging from macro to nano scale will be discussed. Topics will include thermoelectric energy converters and radioisotope thermoelectric generator (RTGs), thermionic energy converters (TEC), photovoltaic (PV) and

thermophotovoltaic (TPV) cells, as well as piezoelectric harvesters. Additional topics may include magnetohydrodynamic (MHD) generators, alkali metal thermal-to-electric converters (AMTEC), and fuel cells.

504. Tribology. (C) Prerequisite(s): Senior standing in Mechanical Engineering or Materials Science or by permission of the instructor.

The course will comprehensively cover both theoretical and practical tribology, the science and technology of interacting surfaces in relative motion. The various modes of lubrication, hydrodynamic, elastohydrodynamic, hydrostatic, mixed, solid and dry, will be studied in detail. The contact between solid surfaces will be covered, leading to an understanding of friction and various modes of wear. At each stage, it will be shown how the tribological principles learned can be applied in practice to improve the efficiency and durability of mechanical equipment and thereby enhance sustainability through energy and materials conservation.

505. (MEAM405, MSE 405) Mechanical Properties of Macro/Nanoscale Materials. (A)

The application of continuum and microstructural concepts to consideration of the mechanics and mechanisms of flow and fracture in metals, polymers and ceramics. The course includes a review of tensors and elasticity with special emphasis on the effects of symmetry on tensor properties. Then deformation, fracture and degradation (fatigue and wear) are treated, including mapping strategies for understanding the ranges of material properties.

507. (MSE 507) Fundamentals of Materials. (C)

This course will provide a graduate level introduction to the science and engineering of materials. It is designed specifically to meet the needs of students who will be doing research that involves materials but who do not have an extensive background in the field. The focus is on fundamental aspects of materials science and will emphasize phenomena and how to describe them. The course assumes an undergraduate background in any area of physical/chemical science and undergraduate mathematics appropriate to this. The course will also be accessible to students of applied mathematics.

510. (MEAM410) Design of Mechatronic Systems. (A)

Prerequisite(s): Graduate standing in engineering or permission of the instructor.

In many modern systems, mechanical elements are tightly coupled with electronic components and embedded computers. Mechatronics is the study of how these domains are interconnected, and this hands-on, project-based course provides an integrated introduction to the fundamental components within each of the three domains, including: mechanical elements (prototyping, materials, actuators and sensors, transmissions, and fundamental kinematics), electronics(basic circuits, filters, op amps, discrete logic, and interfacing with mechatronics), and computing (interfacing with the analog world, microprocessor technology, basic control theory, and programming).

L/L 513. (ESE 505) Feedback Control Design and Analysis. (B)

Prerequisite(s): MEAM 321 or ESE 210, Juniors and Seniors encouraged to enroll.

Basic methods for analysis and design of feedback control in systems. Applications to practical systems. Methods presented include time response analysis, frequency response analysis, root locus, Nyquist and Bode plots, and the state-space approach.

514. (IPD 514) Design for Manufacturability. (B)

Prerequisite(s): MEAM 101 or equivalent, MEAM 210 or equivalent, senior or graduate standing in the School of Design, Engineering, or Business with completed product development and/or design engineering core coursework or related experience.

This course is aimed at providing current and future product design/development engineers, manufacturing engineers, and product development managers with an applied understanding of Design for Manufacturability (DFM) concepts and methods. The course content includes materials from multiple disciplines including: engineering design, manufacturing, marketing, finance, project management, and quality systems.

L/L 516. (IPD 516) Advanced Mechatronic Reactive Spaces. (B)

This course combines performance art and advanced mechatronics concepts that include the design and implementation of large-scale actuation, advanced sensing, actuation and control. This course pairs design school and engineering students to form interdisciplinary teams that together design and build electro-mechanical reactive spaces and scenic/architectural elements in the context of the performing

arts. The two disciplinary groups will be treated separately and receive credit for different courses (ARCH746 will be taught concurrently and in some cases co-located) as they will be learning different things. Engineering students gain design sensibilities and advanced mechatronics in the form of networked embedded processing and protocols for large scale actuation and sensing. Design students learn elementary mechatronics and design reactive architectures and work with engineering students to build them. The class will culminate in a some artistic performance (typically with professional artists) such as a Shakespeare play, robotic ballet, a mechatronic opera.

519. (MSE 550) Elasticity and Micromechanics of Materials. (C)

This course is targeted to engineering students working in the areas on micro/nanomechanics of materials. The course will start with a quick review of the equations of linear elasticity and proceed to solutions of specific problems such as the Hertz contact problem, Eshelby's problem etc. Failure mechanisms such as fracture and the fundamentals of dislocations/plasticity will also be discussed.

520. Introduction to Robotics. (A)

Prerequisite(s): MEAM 211 and MATH 240 or equivalent.

The rapidly evolving field of robotics includes systems designed to replace, assist, or even entertain humans in a wide variety of tasks. Recent examples include human-friendly robot arms for manufacturing, interactive robotic pets, medical and surgical assistive robots, and semi-autonomous search-and-rescue vehicles. This course presents the fundamental kinematic, dynamic, and computational principles underlying most modern robotic systems. The main topics of the course include: rotation matrices, homogeneous transformations, manipulator forward kinematics, manipulator inverse kinematics, jacobians, path and trajectory planning, sensing and actuation, feedback control, haptic interfaces, and teleoperation. The material is reinforced with hands-on lab exercises involving a robotic arm and a haptic interface.

521. Introduction to Parallel Computing. (M)

Prerequisite(s): Programming. Familiarity with Linux or Unix will help.

From numerical weather prediction and earthquake simulations, to quantum mechanics, and to genome sequencing and molecular dynamics, high-performance

computing (HPC) is a fundamental tool for science. The basic principles on how to design, implement, and evaluate HPC techniques will be covered. Topics include parallel non-numerical and numerical algorithms, computing platforms, and message passing interface. Science applications will sample techniques applied to partial differential equations, many-body problems, and statistical physics. Practical problem-solving and hands-on examples will be a basic part of the course.

522. Fundamentals of Sensor Technology. (M)

Explores the principles of sensor science, develops the relationship between intensive and extensive variables, and presents the linear laws between these variables. Students will review the flux-force relations describing kinetic phenomena against the context of means for transducing temperature, stress, strain, magnetic processes and chemical concentration into electrical signals. The need for multivariate signal processing will be introduced and selected applied topics considered.

L/R 527. (ENM 427) Finite Element Analysis. (A)

Prerequisite(s): MATH 241 or ENM 251 and PHYS 151.

The objective of this course is to equip students with the background needed to carry out finite elements-based simulations of various engineering problems. The first part of the course will outline the theory of finite elements. The second part of the course will address the solution of classical equations of mathematical physics such as Laplace, Poisson, Helmholtz, the wave and the Heat equations. The third part of the course will consist of case studies taken from various areas of engineering and the sciences on topics that require or can benefit from finite element modeling. The students will gain hand-on experience with the multi-physics, finite element package FemLab.

528. Advanced Kinematics. (M)

Prerequisite(s): Multivariate calculus, introductory abstract algebra, mathematical maturity.

Differential geometry, Lie groups and rigid body kinematics, Lie algebra, quaternions and dual number algebra, geometry of curves and ruled surfaces, trajectory generation and motion planning, applications to robotics and spatial mechanisms.

529. (ESE 529) Introduction to MEMS and NEMS. (A)

Introduction to RM MEMS technologies; need for RF MEMS components in wireless communications. Review of micromachining techniques and MEMS fabrication approaches. Actuation methods in MEMS, TRF MEMS design and modeling. Examples of RF MEMS components from industry and academia. Case studies: micro-switches, tunable capacitors, inductors, resonators, filters, oscillators and micromachined antennas. Overview of RF NEMS.

530. Continuum Mechanics. (A)

Prerequisite(s): Multivariable Calculus, Linear Algebra, Partial Differential Equations.

This course serves as a basic introduction to the Mechanics of continuous media, and it will prepare the student for more advanced courses in solid and fluid mechanics. The topics to be covered include: Tensor algebra and calculus, Lagrangian and Eulerian kinematics, Cauchy and Piola-Kirchhoff stresses, General principles: conservation of mass, conservation of linear and angular momentum, energy and the first law of thermodynamics, entropy and the second law of thermodynamics; constitutive theory, ideal fluids, Newtonian and non-Newtonian fluids, finite elasticity, linear elasticity, materials with microstructure.

535. Advanced Dynamics. (A)

Three-Dimensional Geometry: Introduction to Reference Frames, Geometry of Rotations of Reference Frames and of Vectors, Euler Angle, Axis-Angle Representations, Properties of Rotation Matrices. Kinematics: Kinematics of Rigid-Body Motion, Rotations, Angular Velocity and Acceleration, Linear Velocity and Acceleration, Applications to Planar Linkage Analysis. Constraints: Configuration Space, Holonomic and Non-holonomic Constraints, Degrees of Freedom, Tests for Holonomic versus Non-holonomic Constraints, Generalized Coordinates, Generalized Speeds, Partial Speeds, Partial Velocities, Principle of Virtual Work for Holonomic and Non-holonomic systems. Constraint Forces: Virtual Work, D'Alembert Equations, Lagrange's Equations for Non-holonomic systems. Distribution of Mass: Center-of-Mass, Vector and Scalar Moments of Inertia. Vector Spaces: Operators, Dyads, Dyadic, Moment-of-Inertia Tensor, Rigid Bodies. Dynamics: Kinetic Energy and Angular Momentum, Lagrangian/Hamiltonian Mechanics and Conservation Laws, Poisson Brackets and

Constants of the Motion, Kane-Lagrange Equations with Non-Holonomic Constraints, Kane-Lagrange Equations, Null Spaces and Computing Constraint Forces. Variational Calculus: The Principle of Least Action, A Study of Small Perturbations and Linear Stability Analysis.

536. Viscous Fluid Flow and Modern Applications. (M)

This course is intended for juniors, seniors and graduate students from the Schools of Engineering and/or Arts and Sciences that have a general interest in fluid dynamics and its modern applications. Students should have an understanding of basic concepts in fluid mechanics and a good grasp on differential equations.

This is an intermediate course that builds on the basic principles of Fluid Mechanics. The course provides a more in depth and unified framework to understand fluid flow at different time and length scales, in particular viscous flows. Topics include review of basic concepts, conservation laws (momentum, mass, and heat), fluid kinematics, tensor analysis, Stokes' approximations, non-Newtonian fluid mechanics, and turbulence. The course will explore important modern topics such as microfluidics, swimming of micro-organisms, wind turbines, rheology, biofluid mechanics, and boundary layers.

537. (MSE 537) Nanotribology. (B)

Prerequisite(s): Freshman physics; MEAM 354 or equivalent, or consent of instructor.

Engineering is progressing to ever smaller scales, enabling new technologies, materials, devices, and applications. This course will provide an introduction to nano-scale tribology and the critical role it plays in the developing areas of nanoscience and nanotechnology. We will discuss how contact, adhesion, friction, lubrication, and wear at interfaces originate, using an integrated approach that combines concepts of mechanics, materials science, chemistry, and physics. We will cover a range of concepts and applications, drawing connections to both established and new approaches. We will discuss the limits of continuum mechanics and present newly developed theories and experiments tailored to describe micro- and nano-scale phenomena. We will emphasize specific applications throughout the course. Reading of scientific literature, critical peer discussion, individual and team problem assignments, and a peer-reviewed literature research project will be assigned as part of the course.

540. Optimal Design of Mechanical Systems. (M) Prerequisite(s): MATH 240, 312 or equivalent; MEAM 210, 453 or equivalent, or permission of the instructor; familiarity with a computer language; undergraduates require permission.

Mathematical modeling of mechanical design problems for optimization. Highlights and overview of optimization methods: unconstrained optimization, unidirectional search techniques, gradient, conjugate direction, and Newton methods. Constrained optimization. KKT optimality conditions, penalty formulations, augmented Lagrangians, and others. SLP and SQP and other approximate techniques for solving practical design problems. Monotonicity analysis and modeling of optimal design problems. Optimization of structural elements including shape and topology synthesis. Variational formulation of distributed and discrete parameter structures. Design criteria for stiffness and strength. Design sensitivity analysis. The course will include computer programs to implement the algorithms discussed and solve realistic design problems. A term project is required.

543. Performance and Design of Unmanned Aerial Vehicles (UAVs). (C)

Prerequisite(s): MEAM 210, 211, MATH 240 or equivalents.

This course covers the application of classical aircraft performance and design concepts to fixed-wing and rotary-wing Unmanned Aerial Vehicles (UAVs). A survey of the latest developments in UAV technology will be used to motivate the development of quantitative mission requirements, such as payload, range, endurance, field length, and detectability. The implications of these requirements on vehicle configuration and sizing and will be revealed through application of the fundamentals of aerodynamics and propulsion systems. The course will also cover basic flight dynamics and control, including typical inner-loop feedback applications.

544. (MEAM455) Continuum Biomechanics. (A) Prerequisite(s): Statics, linear algebra, and differential equations.

Biological and non-biological systems are both subject to several basic physical balance laws of broad engineering importance. Fundamental conservation laws are introduced and illustrated using examples from both animate as well as inanimate systems. Topics include kinematics of deformation, the concept of stress, conservation of mass, momentum, and energy. Mechanical constitutive

equations for fluids, solids and intermediate types of media are described and complemented by hands-on experimental and computational laboratory experiences. Practical problem solving using numerical methods will be introduced.

545. Aerodynamics. (B) Prerequisite(s): MEAM 302.

Review of fluid kinematics and conservation laws; vorticity theorems; two-dimensional potential flow; airfoil theory; finite wings; oblique shocks; supersonic wing theory; laminar and turbulent boundary layers.

550. Design of Microelectromechanical Systems. (M)

Prerequisite(s): MEAM 354 or equivalent is recommended.

A course that covers the design and fabrication of micro- and nano-electromechanical systems. Topics in the course include micro- and nano-fabrication techniques, mechanics of flexures, thin film mechanics, sensing and actuation approaches (e.g., electrostatic, piezoelectric, and piezoresistive), as well as materials and reliability issues. The fundamentals of these topics will be augmented with device-based case studies.

553. (MSE 561) Atom Mod in Mats Science. (B)

Prerequisite(s): Why and what to model: Complex lattice structures, structures of lattice defects, crystal surfaces, liquids, linking structural studies with experimental observations, computer experiments. Methods: Molecular statics, molecular dynamics, Monte Carlo. Evaluation of physical quantities employing averages, fluctuations, correlations, autocorrelations, radial distribution function, etc. Total energy and interatomic forces; Local density functional theory and abinitio electronic structure calculations, tight-binding methods, empirical potentials for metals, semiconductors and ionic crystals.

554. (MEAM454) Mechanics of Materials. (M)

Prerequisite(s): MEAM 210, MEAM 354, MATH 240, 241. This course is cross-listed with an advanced level undergraduate course. It may be taken by M.S.E. students for credit. M.S.E. students will be required to do some extra work, they will be graded on a different scale than undergraduate students, and they will be required to demonstrate a higher level of maturity in their class assignments.

Rods and trusses. Stress. Principal stresses. Strain. Compatibility. Elastic stress-strain relations. Strain energy. Plane strain. Plane stress. Bending of beams.

Torsion. Rotating disks. Castigliano's Theorem. Dummy loads. Principle of virtual work. The Rayleigh-Ritz methods. Introduction to the finite element method. Non-linear material behavior. Yielding. Failure.

L/R 555. (BE 555, CBE 555) Nanoscale Systems Biology. (C)

Prerequisite(s): Background in Biology, Chemistry or Engineering with coursework in thermodynamics or permission of the instructor.

From single cell manipulations down to studies of single nanoparticles and single molecules, basic cell- molecular biology and biotechnologies are increasingly 'nano' as well as quantitative. Lectures and laboratories in this course start with nano aspects of optical detection, address the basic thermodynamics of biomolecular interactions, and then cover genomic scale devices. Nanoprobe methods are then complemented by basic theories of self-assembly and polymers as well as application in drug delivery and virus engineering with analyses of limitations imposed by the innate immune system. Skills in analytical and professional presentations, papers and laboratory work will be developed.

L/R 561. Thermodynamics: Foundations, Energy, Materials. (M)

Prerequisite(s): Undergraduate thermodynamics.

To introduce students to advanced classical equilibrium thermodynamics based on Callen's postulational approach, to exergy (Second-Law) analysis, and to fundamentals of nonequilibrium thermodynamics. Applications to be treated include the thermodynamic foundations of energy processes and systems including advanced power generation and aerospace propulsion cycles, batteries and fuel cells, combustion, diffusion, transport in membranes, materials properties and elasticity, superconductivity, biological processes.

L/L 564. (ESE 460, ESE 574) The Principles and Practice of Microfabrication Technology. (A)

Prerequisite(s): Any of the following courses: ESE 218, MSE 321, MEAM 333, CHE 351, CHEM 321/322, Phys 250 or permission of the instructor.

A laboratory course on fabricating microelectronic and micromechanical devices using photolithographic processing and related fabrication technologies. Lectures discuss: clean room procedures, microelectronic and microstructural materials, photolithography, diffusion,

oxidation, materials deposition, etching and plasma processes. Basic laboratory processes are covered in the first two thirds of the course with students completing structures appropriate to their major in the final third. Students registering for ESE 574 will be expected to do extra work (including term paper and additional project).

L/R 570. (CBE 640) Transport Processes I. (A)

The course provides a unified introduction to momentum, energy (heat), and mass transport processes. The basic mechanisms and the constitutive laws for the various transport processes will be delineated, and the conservation equations will be derived and applied to internal and external flows featuring a few examples from mechanical, chemical, and biological systems. Reactive flows will also be considered.

571. Advanced Topics in Transport Phenomena. (M)

Prerequisite(s): Either MEAM 570, MEAM 642, CHE 640 or equivalent, or Written permission of the Instructor.

The course deals with advanced topics in transport phenomena and is suitable for graduate students in mechanical, chemical and bioengineering who plan to pursue research in areas related to transport phenomena or work in an industrial setting that deals with transport issues. Topics include: Transport processes with drops, Bubbles and particles; Phase change Phenomena: -condensation, evaporation, and combustion; Radiation heat transfer: non-participating media, participating media, equation of radiative transfer, optically thin and thick limits; Introduction to Hydrodynamic and Thermal Instability; Microscale energy transport; Nano-particle motion in fluids and transport.

572. Micro/Nanoscale Energy Transport. (M)

Prerequisite(s): Undergraduate thermodynamics and heat transfer (or equivalent), or permission of the instructor. Undergraduates may enroll with permission of the instructor.

As materials and devices shrink to the micro- and nanoscale, they transmit heat, light and electronic energy much differently than at the macroscopic length scales. This course provides a foundation for studying the transport of thermal, optical, and electronic energy from a microscopic perspective. Concepts from solid state physics and statistical mechanics will be introduced to analyze the influence of small characteristic dimensions on the propagation of crystal vibrations, electrons, photons, and molecules. Applications to

modern microdevices and thermometry techniques will be discussed. Topics to be covered include natural and fabricated microstructures, transport and scattering of phonons and electrons in solids, photon-phonon and photon-electron interactions, radiative recombinations, elementary kinetic theory, and the Boltzmann transport equation.

575. Micro and Nano Fluidics. (M)

The course focuses on topics relevant for micro-fluidics, lab on chip technology, point of care diagnostics, nano-technology, biosensing, and interfacial phenomena. Although we will discuss briefly the fabrication of micro and nano fluidic devices, the course will mostly focus on physical phenomena from the continuum point of view. The mathematical complexity will be kept to a minimum. The course will be reasonably self-contained, and any necessary background material will be provided, consistent with the students' background and level of preparation.

Specifically, we will examine fluid and nanoparticle transport under the action of pressure, electric, magnetic, and capillary forces; the structure and role of superhydrophobic surfaces; how the solid/liquid interface acquires electric charge; ion transport in electrolytes (Poisson-Nernst-Planck equations); colloid stability; electroosmosis, electrophoresis, and particle polarization; electrowetting and digital microfluidics; particle and cell sorting; immunoassays; and enzymatic amplification of nucleic acids.

580. Electrochemistry for Energy, Nanofabrication and Sensing. (C)

Prerequisite(s): Undergraduate course in Fluid Mechanics (MEAM 302), and in Heat and Mass Transfer (MEAM 333).

Principles and mathematical models of electrochemical processes in energy conversion and storage, water desalination, nanofabrication, electroplating, and sensing for engineering and science graduate students and advanced undergraduates, lacking prior background in electrochemistry. The course covers equivalent circuits, electrode kinetics, electrokinetic and transport phenomena, and electrostatics. The course will introduce and use the finite element program COMSOLTM. We will discuss, among other things, applications to stationary and flow batteries, supercapacitors, integrated electric circuit fabrication, electrokinetics, and biosensing. In contrast to CBE 545 Electrochemical Energy Conversion that focuses on solid

state electrochemistry, this course emphasizes liquid-based electrochemistry.

597. Master's Thesis Research. (C)

599. Master's Independent Study. (C)

613. (CBE 617, CIS 613, ESE 617) Nonlinear Control Theory. (M)

Prerequisite(s): A sufficient background to linear algebra (ENM 510/511 or equivalent) and a course in linear control theory (MEAM 513 or equivalent), or written permission of the instructor.

The course studies issues in nonlinear control theory, with a particular emphasis on the use of geometric principles. Topics include: controllability, accessibility, and observability, for nonlinear systems; Forbenius' theorem; feedback and input/output linearization for SISO and MIMO systems; dynamic extension; zero dynamics; output tracking and regulation; model matching disturbance decoupling; examples will be taken from mechanical systems, robotic systems, including those involving nonholonomic constraints, and active control of vibrations.

620. Advanced Robotics. (B)

Prerequisite(s): Graduate standing in engineering and MEAM 535 or ESE 500 or CIS 580 or MEAM 520.

This course covers advanced topics in robotics and includes such topics as multi-body dynamics, nonlinear control theory and planning algorithms with application to robots and systems of multiple robots.

L/R 625. Haptic Interfaces. (M)

Prerequisite(s): Graduate standing in engineering and MEAM 510 (Mechatronics), MEAM 520 (Intro to Robotics), MEAM 535 (Advanced Dynamics) or equivalent. Undergraduates require permission.

This class provides a graduate-level introduction to the field of haptics, which involves human interaction with real, remote, and virtual objects through the sense of touch. Haptic interfaces employ specialized robotic hardware and unique computer algorithms to enable users to explore and manipulate simulated and distant environments. Primary class topics include human haptic sensing and control, haptic interface design, virtual environment rendering methods, teleoperation control algorithms, and system evaluation; current applications for these technologies will be highlighted, and important techniques will be demonstrated in a laboratory setting. Coursework includes problem sets, programming assignments, reading and discussion of research papers, and a final

project. Appropriate for students in any engineering discipline with interest in robotics, dynamic systems, controls, or human-computer interaction.

630. Advanced Continuum

Mechanics. (M) Prerequisite(s): One graduate level course in applied mathematics and one in either fluid or Solid Mechanics.

This course is a more advanced version of MEAM 530. The topics to be covered include: tensor algebra and calculus, Lagrangian and Eulerian kinematics; Cauchy and Piola-Kirchhoff stresses. General principles: conservation of mass, conservation of linear and angular momentum, energy and the first law of thermodynamics, entropy and the second law of thermodynamics. Constitutive theory, ideal fluids, Newtonian and non-Newtonian fluids, finite elasticity, linear elasticity, materials with microstructure.

631. Advanced Elasticity. (M)

Prerequisite(s): MEAM 519 or permission of instructor.

Reciprocal theorem. Uniqueness. Variational theorems. Rayleigh-Ritz, Galerkin, and weighted residue methods. Three-dimensional solutions and potentials. Papkovitch-Neuber formulation. Problems of Boussinesq and Mindlin. Hertz theory of contact stress.

632. Plasticity. (M)

Prerequisite(s): MEAM 519 or permission of instructor.

Plastic yield conditions and associated flow rules. Phenomenological theories for strain-hardening plasticity. Large strain theory. Physical theories of single crystal and polycrystal plasticity. Boundary value problems and plane strain slip line fields. Variational principles and limit analysis. Creep. Applications to structures, metal forming, friction and wear, contact, and fracture.

633. Mechanics of Plastic Flow and Fracture. (M)

Prerequisite(s): Background equivalent to MEAM 519 and ENM 510.

This course focuses on mechanics aspects of localized plastic flow and fracture. Topics include: yield criteria, plastic flow rules, phenomenological theories, linear analysis of cracks in elastic materials, non-linear analysis of cracks in elastic-plastic materials, fracture parameter and J-integral methods with and applications to strain localization, crack growth, and stability. Micro-mechanical models of strain localization and fracture are analyzed using non-linear elasticity, plane strain slip line incremental elastic-plastic boundary value problems, and energy methods.

Applications to various material systems and processes, including layered materials, forming, friction and wear, and contact.

634. Rods and Shells. (M)

Prerequisite(s): First-year graduate-level applied mathematics for engineers (ENM 510 and 511) and a first course in continuum mechanics or elasticity or permission of instructor.

This course is intended for 2nd year graduate students and introduces continuum mechanics theory of rods and shells with applications to structures and to biological systems as well as stability and buckling. The course begins with topics from differential geometry of curves and surfaces and the associated tensor analysis on Riemannian spaces. A brief introduction to variational calculus is included since variational methods are a powerful tool for formulating approximate structural mechanics theories and for numerical analysis. The structural mechanics theories of rods, plates and shells are introduced including both linear and nonlinear theories.

635. Composite Materials. (M)

Prerequisite(s): ENM 510. Corequisite(s): ENM 511.

This course deals with the prediction of the average, or effective properties of composite materials. The emphasis will be on methods for determining effective behavior. The course will be concerned mostly with linear mechanical and physical properties, with particular emphasis on the effective conductivity and elastic moduli of multi-phase composites and polycrystals. However, time-dependent and non-linear properties will also be discussed.

637. (AMCS637, MSE 637) Modern Applications of Dynamics. (C) When demand permits.

This course is targeted at engineering, physical science, computational and mathematics Ph.D. students. The course focuses on techniques for the simulation/modeling of materials on a time and/or length scale that is large compared with atomistic/molecular but with structure that is fine on the scale of typical (homogenized) continuum theory. The course explores kinetic models, defect dynamics, and statistical mechanics models and their implementation in computer simulation.

642. Advanced Fluid Mechanics. (C)

Fluid mechanics as a vector field theory; basic conservation laws, constitutive relations, boundary conditions, Bernoulli theorems, vorticity theorems, potential

flow. Viscous flow; large Reynolds number limit; boundary layers.

646. Computational Mechanics. (M)

Prerequisite(s): ENM 510, ENM 511, and one graduate level introductory course in mechanics. FORTRAN or C programming experience is necessary.

The course is divided into two parts. The course first introduces general numerical techniques for elliptical partial differential equations - finite difference method, finite element method and spectral method. The second part of the course introduces finite volume method. SIMPLER formulation for the Navier-Stokes equations will be fully described in the class. Students will be given chances to modify a program specially written for this course to solve some practical problems in heat transfer and fluid flows.

647. Fundamentals of Complex Fluids. (M)

Prerequisite(s): ENM 510, MEAM 530 or MEAM 570, or permission of the instructor.

Complex fluids are a broad class of materials. They are usually homogeneous at the macroscopic scale and disordered at the microscopic scale, but possess structure at an intermediate scale. The macroscopic behavior of these fluids is controlled by the fluid intermediate scale. This course will cover the basic concepts of structure, dynamics, and flow properties of polymers, colloids, liquid crystals, and other substances with both liquid and solid-like characteristics. Both the experimental and theoretical aspects of rheology will be discussed. The basic forces influencing complex fluid rheology will be outlined and discussed. These include van der Waals, electrostatic, excluded volume and other interactions. Methods for characterizing structure will be covered including scattering techniques, optical microscopy. Examples will focus on several types of complex fluids such as polymeric solutions and melts, emulsions & foams, gelling systems, suspensions and self-assembling fluids.

650. (MSE 650) Mechanics of Soft and Biomaterials. (C)

L/R 662. (BE 662, CBE 618) Advanced Molecular Thermodynamics. (A)

Review of classical thermodynamics. Phase and chemical equilibrium for multicomponent systems. Prediction of thermodynamic functions from molecular properties. Concepts in applied statistical mechanics. Modern theories of liquid mixtures.

663. Entropic Forces in Biomechanics. (C)

This course is targeted for engineering/physics students working in the areas of nano/bio technology. The course will start with a quick review of statistical mechanics and proceed to topics such as Langevin dynamics, solution biochemistry (Poisson-Boltzmann and Debye-Huckel theory), entropic elasticity of bio-polymers and networks, reaction rate kinetics, solid state physics and other areas of current technological relevance. Students will be expected to have knowledge of undergraduate mechanics, physics and thermodynamics.

690. Advanced Topics in Thermal Fluid Science or Energy. (M)

This course will be offered when demand permits. The topics will change due to the interest and specialties of the instructor(s). Some topics could include: Computational Fluid Mechanics, Visualization of Computational Results, Free Surface Flows, Fluid Mechanics of the Respiratory System, and transport in Reacting Systems.

691. Special Topics in Mechanics of Materials. (M)

This course will be offered when demand permits. The topics will change due to the interests and specialties of the instructor(s). Some topics could include: Compliant Mechanisms, Optimal Control, and Fluid-Structure interaction.

692. Topics in Mechanical Systems. (M)

This course will be offered when demand permits. The topics will change due to the interests and specialties of the instructor(s). Some topics could include: Electromagnetics, Control Theory, and Micro-Electro-Mechanical Systems.

SM 699. MEAM Seminar. (C)

The seminar course has been established so that students get recognition for their seminar attendance as well as to encourage students to attend. Students registered for this course are required to attend weekly departmental seminars given by distinguished speakers from around the world. There will be no quizzes, tests, or homeworks. The course will be graded S/U. In order to obtain a satisfactory (S) grade, the student will need to attend more than 70% of the departmental seminars. Participation in the seminar course will be documented and recorded on the students transcript. In order to obtain their degree, doctoral students will be required to accumulate six seminar courses and MS candidates (beginning in the Fall 2001) two

courses. Under special circumstances, i.e. in case of conflict with a course, the student may waive the seminar requirement for a particular semester by petition to the Graduate Group Chair.

895. Teaching Practicum. (C)

This course provides training in the practical aspects of teaching. The students will attend seminars emphasizing teaching and communication skills, deliver demonstration lectures, lead recitations, lead tutorials, supervise laboratory experiments, develop instructional laboratories, develop instructional material, prepare and grade homework; grade laboratory reports, and prepare and grade examinations. Some of the recitations will

be supervised and feedback and comments will be provided to the student by the faculty responsible for the course. At the completion of the 0.5 c.u. of teaching practicum, the student will receive a Satisfactory/Unsatisfactory grade and a written evaluation signed by the faculty member responsible for the course. The evaluation will be based on comments of the students taking the course and the impressions of the faculty in charge.

899. Independent Study. (C)

For students who are studying specific advanced subject areas in mechanical engineering and applied mechanics. Before the beginning of the term, the student must submit a proposal outlining and detailing

the study area, along with the faculty supervisor's consent, to the graduate group chair for approval. At the conclusion of the independent study, the student should prepare a brief report.

990. Masters Thesis.

Master's Thesis

995. Dissertation.

999. Thesis/Dissertation Research. (C) Both terms.

For students working on an advanced research program leading to the completion of master's thesis or Ph.D. dissertation requirements.

**MILITARY SCIENCE
(PV) {MSCI}**

Military Science (Army ROTC - Reserve Officers' Training Corps) is open to any student desiring to earn a commission in the Active Army, US Army Reserve, or Army National Guard upon graduation.

The primary purpose of Army ROTC is to prepare college men and women to serve as commissioned officers in the US Army. Students enrolled in the ROTC program receive instruction in fundamentals of leadership with emphasis on self-discipline, integrity, confidence, and responsibility.

All students enrolled in Military Science courses will participate, unless ineligible or exempt, in a weekly leadership laboratory (a nominal lab fee is charged), one weekend field training exercise (FTX) per semester, and a physical training program. This training augments the classroom instruction and is included into the final grade.

Freshman and sophomore students can enroll in the ROTC Basic Course without incurring an obligation to serve in the US Army. The term Basic Course refers to first and second year courses, MSCI 101, 102, 201, and 202, which are designed for beginning students who want to qualify for entry into the Advanced Course, and for students who may want to try Military Science without obligations. A number of popular or challenging extracurricular activities are associated with these courses.

101. Basic Leadership I Laboratory/Practicum. (A) Staff. Corequisite(s): Enrollment in MSCI 110 Basic Leadership I Lecture required. 1 h. No credit, or as awarded by cross-enrolled schools.

Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.

102. Basic Leadership I Laboratory/Practicum. (B) Staff. Corequisite(s): Enrollment in MSCI 120 Basic Leadership I Lecture required. 1 h. No credit, or as awarded by cross-enrolled schools.

Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.

110. Leadership and Personal Development. (A) Staff. Corequisite(s): Enrollment in MSCI 101 Basic Leadership I Lab required. 1.00 CU - Credit excluded from full-time calculation.

Introduces students/cadets to the personal challenges and competencies that are critical for effective leadership. Focus is placed on developing basic knowledge and comprehension of the U.S. Army's Leadership Dimensions while gaining a "big picture" understanding of the Army ROTC program, its purpose in the U.S. Army and our nation, and its advantages for the student. Classes are conducted for one hour once each week.

120. Foundations In Leadership. (B) Staff. Corequisite(s): Enrollment in MSCI 102 Basic Leadership I Lab required. 1.00 CU - Credit excluded from full-time calculation.

Reviews leadership fundamentals such as setting direction, problem solving, listening, presenting briefs, providing feedback and using effective writing skills. Students/cadets are also exposed to key fundamentals of skills required to be successful as an MS II cadet; namely military map reading and land navigation, and small unit operations/leadership drills.

201. Basic Leadership 2 Laboratory/Practicum. (A) Staff. Corequisite(s): Enrollment in MSCI 210 Basic Leadership 2 Lecture required. 2 h. No credit, or as awarded by cross-enrolled schools.

Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.

202. Basic Leadership Laboratory/Practicum. (B) Staff. Corequisite(s): Enrollment in MSCI 202 Leadership I Lecture required. 2 h. No credit, or as awarded by cross-enrolled schools.

Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.

Basic Course Leadership Laboratory. 2h. Open only to (and required of) students in the associated Military Science course. Series, with different roles for students at different levels in the program. Learn and practice basic skills. Gain insight into Advanced Course in order to make an informed decision whether to apply for it. Build self-confidence and team-building leadership skills that can be applied throughout life.

Basic Course Physical Fitness. Only open to students in MSCI 101,102, 201 and 202. Series, with different roles for students at different levels in the program. Participate in and learn to lead a physical fitness program. Emphasis on the development of an individual fitness program and the role of exercise and fitness is one's life.

Students who continue in the advanced course as juniors and seniors become obligated to serve either on active duty or in the reserve component. The Advanced Course consists of the courses MSCI 301, 302, 401 and 402. It is open only to students who have completed the Basic Course or earned placement credit for the basic course (various methods). The Advanced Course is designed to qualify a student for a commission as an officer of the United States Army. Students must complete all courses numbered greater than 300, to include a six-week Advanced Camp during the summer, usually between the junior and senior years. The courses must be taken in sequence unless otherwise approved by the Professor of Military Science. All contracted students receive \$150 per month stipend during the school year.

210. Innovative Tactical Leadership. (A) Staff. Corequisite(s): Enrollment in MSCI 201 Basic Leadership 2 Laboratory required. 1.00 CU - Credit excluded from full-time calculation.

Explores the dimensions of creative and innovative tactical leadership strategies and styles by studying historical case studies and engaging in interactive student exercises. Focus is on continued development of the knowledge of leadership values and attributes through an understanding of rank, uniform, customs and courtesies.

220. Leadership In Changing Environments. Staff. Corequisite(s): Enrollment in MSCI 202 Leadership I Lab required. 1.00 CU - Credit excluded from full-time calculation.

Examines the challenges of leading in complex contemporary operational environments. Students/cadets are exposed to more complex land navigation/map reading tasks, as well as more advanced small unit operations/leadership drills. Cadets develop greater self awareness as they practice communication and team building skills.

301. Leadership

Laboratory/Practicum 3. (A) Staff.
Prerequisite(s): Completion of MSCI 100 and 200 level courses. Corequisite(s): Enrollment in MSCI 310 Basic Leadership 3 Lecture required. 2.5 hours. No credit, or as awarded by cross-enrolled schools.
Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.

302. Leadership

Laboratory/Practicum. (B) Staff.
Prerequisite(s): Completion of MSCI 100 and 200 level courses. Corequisite(s): Enrollment in MSCI 320 Basic Leadership 3 Lecture required. 2.5 hours. No credit, or awarded by cross-enrolled schools.
Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.

ROTC Advanced Camp. A six-week camp conducted at an Army post. Only open to (and required of) students who have completed MS 301 and 302. The student receives pay. Travel, lodging and most meal cost are defrayed by the US Army. The Advanced Camp environment is highly structured and demanding, stressing leadership at small unit levels under varying, challenging conditions. Individual leadership and basic skills performance are evaluated throughout the camp. The leaders and skills evaluations at the camp weigh heavily in the subsequent selection process that determines the type commission and job opportunities given to the student upon graduation from ROTC and the university

Nurse Summer Training Program. Consist of three weeks at an Advanced Camp (see above) and up to five weeks serving as a nurse in a military medical treatment facility. Only open to (and required of) nursing students who have completed MSCI 301 and 302. Replaces normal advanced. The student receives pay. Travel, lodging and most meal costs are defrayed by the US Army. The camp and clinical environments are demanding, stressing leadership and basic skills performance are evaluated throughout. The leadership and skills evaluations weigh heavily on the subsequent selection process that determines the job opportunities offered to the nurse upon graduation.

310. Leadership in Contact. Staff.
Prerequisite(s): Completion of MSCI 100 and 200 level courses. Corequisite(s): Enrollment in MSCI 301 Leadership 3 Lab required. 1.00 CU - Credit excluded from full-time calculation.

Uses increasingly intense situational leadership challenges to build cadet awareness and skills in leading small units. Skills in decision-making, persuading, and motivating team members when "in combat" are explored, evaluated, and developed.

320. Complex Team Leadership Issues. (B) Staff. Corequisite(s): Enrollment in MSCI 302 Leadership I Lab required. 1.00 CU - Credit excluded from full-time calculation.

Challenges cadets with more complex leadership issues to further develop, practice, and evaluate adaptive leadership. Cadets continue to analyze and evaluate their own leadership values, attributes, skills and actions in preparation for the Leadership Development and Assessment Course (LDAC). Primary attention is given to preparation for LDAC and the development of both tactical skills and leadership qualities.

401. Leadership Laboratory/Practicum 4. (A) Staff.
Prerequisite(s): Completion of MSCI 100, 200 and 300 level courses. Corequisite(s): Enrollment in MSCI 410 Leadership 4 Lecture required. 1.00 CU - credit excluded from full-time calculation.

Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.

402. Leadership Laboratory/Practicum. (B) Staff.
Prerequisite(s): Completion of MSCI 100, 200 and 300 level courses. Corequisite(s): Enrollment in MSCI 420 Basic Leadership 4 Lecture required. 2.5 hours. No credit, or as awarded by cross-enrolled schools.

Provides hands-on experience to reinforce leadership fundamentals, while emphasizing increased awareness of and proficiency in military skills.

Advance Course Leadership Laboratories. 2h. Open only to students in

the associated Military Science course. Series, with different roles for students at different levels in the program. Involves leadership responsibilities for the planning, coordination, execution and evaluation of various training and activities with Basic Course students and for the ROTC program as a whole. Students develop, practice and refine leadership skills by serving and being evaluated in a variety of responsible positions.

Advanced Course Physical Fitness. Only offered to (and required of) students in MSCI 301, 302, 401 and 402, of which this program is an integral part. Series, with different roles for students at different levels in the program. Participate in and learn to plan and lead physical fitness programs. Develops the physical fitness required of an officer in the Army. Emphasis on the development of an individual fitness program and the role of exercise and fitness in one's life.

410. Developing Adaptive Leaders. (A) Staff. Prerequisite(s): Completion of MSCI 100, 200 and 300 level courses. Corequisite(s): Enrollment in MSCI 401 Leadership 4 Lab required. 1.00 CU - credit excluded from full-time calculation.

Develops cadet proficiency in planning, executing, and assessing complex operations, functioning as a member of a staff, and providing leadership performance feedback to subordinates. Cadets are given situational opportunities to assess risk, make ethical decisions, and provide coaching to fellow ROTC cadets.

420. Leadership in the Contemporary Operating Environment of the 21st Century. Staff. Prerequisite(s): Completion of MSCI 100, 200 and 300 level courses. Corequisite(s): Enrollment in MSCI 402 Leadership I Lab required. 1.00 CU - Credit excluded from full-time calculation.

Explores the dynamics of leading in the complex situations of current military operations. Cadets examine differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. Aspects of interacting with non-government organizations, civilians on the battlefield, and host nation support are examined and evaluated.

MUSIC (AS) {MUSC}

Undergraduate Studies

Freshman Seminars

SM 016. (AFRC016, AFST016, COML015, URBS016) Freshman Seminar. (M) Staff.

The primary goal of the freshman seminar program is to provide every freshman the opportunity for a direct personal encounter with a faculty member in a small setting devoted to a significant intellectual endeavor. Specific topics will be posted at the beginning of each academic year. Please see the College Freshman seminar website for information on current course offerings <http://www.college.upenn.edu/courses/seminars/freshman.php>. Fulfills Arts and Letters sector requirement.

SM 018. (URBS018) Freshman Seminar. (M) Staff.

The primary goal of the freshman seminar program is to provide every freshman the opportunity for a direct personal encounter with a faculty member in a small setting devoted to a significant intellectual endeavor. Specific topics be posted at the beginning of each academic year. Please see the College Freshman seminar website for information on current course offerings <http://www.college.upenn.edu/courses/seminars/freshman.php>. Fulfills Cross Cultural Analysis Requirement.

History of Music

030. 1000 Years of Musical Listening. (C) Arts & Letters Sector. All Classes. Calcagno, Caldwell, Goodman. Open to all students.

We know that we like music and that it moves us, yet it is often difficult to pinpoint exactly why, and harder still to explain what it is we are hearing. This course takes on those issues. It aims to introduce you to a variety of music, and a range of ways of thinking, talking and writing about music. The majority of music dealt with will be drawn from the so-called "Classical" repertory, from the medieval period to the present day, including some of the 'greats' such as Handel, Beethoven, Mozart, Berlioz, and Verdi, but will also introduce you to music you will most likely never have encountered before. This course will explore the technical workings of music and the vocabularies for analyzing music

and articulating a response to it; it also examines music as a cultural phenomenon, considering what music has meant for different people, from different societies across the ages and across geographical boundaries. As well as learning to listen ourselves, we will also engage with a history of listening. No prior musical knowledge is required. (Formerly Music 021)

031. Symphony. (C) Bernstein.

This course will focus on a specific repertoire of representative symphonies by such composers as Haydn, Mozart, Beethoven, Schubert, Berlioz, Schumann, Brahms, Tchaikowsky, and Mahler. Historical developments will be considered, along with the effects upon symphonic literature of such major sociological changes as the emergence of the public concert hall. But the emphasis will be on the music itself--particularly on the ways we can sharpen our abilities to engage and comprehend the composers' musical rhetoric. Topics will alternate term to term.

032. Composers. (M) Arts & Letters Sector. All Classes. Staff.

This course will center on the biography, works, and cultural context of a specific composer or group of composers. As well as introducing students to the musical works of the composer(s), the course will examine issues such as reception history, the canon, mechanisms of cult formation, authorship and attribution, identity, historical and social contexts, and nationalism and patriotism. Fulfills Arts and Letters sector and Cross Cultural Analysis Requirements.

033. History of Opera. (M) Arts & Letters Sector. All Classes. Calcagno, Goodman.

An investigation, through a series of representative works, of the central problem of opera: how does the combination of music, text, and visual spectacle create an art form in which the whole is more powerful than its parts. Today this issue can be examined not only in live performances but also through media such as film, DVD, streaming video--media to which this four-centuries-old multimedia form has adapted, evolving in still compelling ways. The works chosen for the course provide a chronological survey but also represent the variety of sources on which opera has drawn for its subject matter: myth and legend, the epic, the novel, and the play.

034. Music Makers. Staff.

Courses under this number will treat composer performers and performance. Courses will include a class on Haydn and Mozart (formerly 027;); Beethoven (Formerly 028; and Mahler (formerly 025).

035. (AFRC077) Jazz Style and History. (M) Ramsey. This course is an exploration of the family of musical idioms called jazz. Attention will be given to issues of style development, selective musicians, and to the social and cultural conditions and the scholarly discourses that have informed the creation, dissemination and reception of this dynamic set of styles from the beginning of the 20th century to the present. Fulfills Cultural Diversity in the U.S.

130. Introduction to European Art Music. (M) Arts & Letters Sector. All Classes. Calcagno, Caldwell, Goodman, and Kallberg. Prerequisite(s): Music 070. Fulfills the requirements of the Music Major. Music 070 prerequisite.

This course aims to introduce students to what it means to study the European musical tradition. Students will approach the diverse music that constitute the classical tradition from a variety of scholarly perspectives. The goal of this class is to listen deeply and think broadly. Students will consider questions such as: what sort of object is music? Where is it located? What does it mean to say a work is "canonic"? What is left out of the story? This class will be in dialog with other tier-one classes, and will consider what the historian can bring to the study and understanding of music.

135. Introduction to the Music Life in America. (M) Arts & Letters Sector. All Classes. Ramsey, Goodman. Prerequisite(s): Music 070.

This course surveys American musical life from the colonial period to the present. Beginning with the music of Native Americans, the European legacy, and the African Diaspora, the course treats the singular social and political milieu that forged the profile of America's musical landscape. Attention will be given to the establishment of the culture industry and to various activities such as sacred music, parlor music, concert and theater music, the cultivation of oral traditions, the appearance of jazz, the trajectory of western art music in the United States, and the eventual global dominance of American popular music. Music 070 prerequisite. Preference given to music Majors and Minors.

230. Historical Eras and Topics: Earlier Periods. (M) Staff.

This course offers an in-depth look at topics and repertoires of the "earlier" periods, namely one (or more) of three historical epochs: Medieval, Renaissance, or Baroque. The purpose of this course is to give students the opportunity to engage deeply with musical works historically, analytically, and contextually, in addition to introducing a range of methodologies within the historical study of Music. (Formerly Music 120, 121, 122).

231. Historical Eras and Topics: Later Periods. Staff.

This course offers an in-depth look at topics and repertoires of the eighteenth century to today. Classes focus on one (or more) of four historical epochs: Enlightenment, Romantic, Modern, and Postmodern. The purpose of this course is to give students the opportunity to engage deeply with musical works historically, analytically and contextually, in addition to introducing a range of methodologies within the historical study of music. (Formerly 123, 124).

232. Themes in Music History. (M) Staff.

In this course, students will have the opportunity to explore music history from a thematic or conceptual perspective, frequently through several eras. Past these organizing the course include the Voice, the Sacred, Uncanny, Technology, Instruments, Orality and Literacy, and Machines.

233. Musical Thought and Scholarship. Staff.

This course will introduce students to the field of music philosophy, aesthetics and intellectual history.

234. Music Makers. (M) Staff.

Courses under this number will treat composer, performers, and performance. This class may also on occasion have a performance component, including collaborations with local performance venues, artists in residence. Courses will include a class on Haydn and Mozart (formerly 027); Beethoven (formerly 28); Mahler (formerly 25); Monks and Nuns; String Quartets.

235. (AFRC147, FOLK106) Studies in African-American Music. (M) Ramsey.

This course explores aspects of the origins, style development, aesthetic philosophies, historiography, and contemporary conventions of African-American musical

traditions. Topics covered include: the music of West and Central Africa, the music of colonial America, 19th century church and dance music, minstrelsy, music of the Harlem Renaissance, jazz, blues, gospel, hip-hop, and film music. Special attention is given to the ways that black music produces "meaning" and to how the social energy circulating within black music articulates myriad issues about American identity at specific historical moments. The course will also engage other expressive art forms from visual and literary sources in order to better position music making into the larger framework of African American aesthetics. (Formerly Music 146).

236. Performance, Analysis, History. (M) Staff.

Participation in the course is contingent upon a successful audition. This course must be taken for a letter grade (pass/fail option may not be utilized for this course). This weekly seminar will explore music from the past and present through class discussions of performance, historical context, and analytical aspects of the music led by a professor and/or performer. One example of a class in this number will be an in-depth study of chamber music repertoire led by the Daedalus Quartet. Students will prepare for a final performance at the end of the semester as well as a paper/presentation. Students interested in this applied approach to music may also wish to take 256 and/or 276.

238. Mahler's "Resurrection" Symphony. (M) Bernstein.

This course is designed to facilitate the sort of in-depth consideration of a musical work that can arise when the better part of a semester is given over essentially to the study of a single composition, in this case, Mahler's Second Symphony. The work will be studied from a variety of perspectives, including: the composer's approach to monumentality; his experiments with orchestral sonority; the influence on this symphony of Beethoven's Fifth and Ninth Symphonies; the relationship to the Second Symphony of Mahler's *Lieder aus Des Knaben Wunderhorn* and his own First Symphony; and the impact of events in Mahler's early life on the genesis and nature of the Resurrection Symphony. The course is open to Music Majors and Minors. Other students who believe they are adequately prepared for this course should consult with the instructor (Lawrence Bernstein) before registering.

239. Guided Reading in Musicology. (C) Staff. Prerequisite(s): Musc 130 or 135; and 170.

Individual research under the supervision of a member of the faculty. Students who take Music 239 may not take Music 259 or 279. Prerequisite 130 and one other class from tier 1 or 2.

SM 330. Seminar in Music History. (M) Staff.

Advanced seminar in topics in musicology.

*Anthropology of Music***050. (AFRC050, AFST050, ANTH022, FOLK022) World Musics and Cultures. (C)** Arts & Letters Sector. All Classes. Muller, Rommen, Sykes.

This course examines how we as consumers in the "Western" world engage with musical difference largely through the products of the global entertainment industry. We examine music cultures in contact in a variety of ways-- particularly as traditions in transformation. Students gain an understanding of traditional music as live, meaningful person-to-person music making, by examining the music in its original site of production, and then considering its transformation once it is removed, and recontextualized in a variety of ways. The purpose of the course is to enable students to become informed and critical consumers of "World Music" by telling a series of stories about particular recordings made with, or using the music of, peoples culturally and geographically distant from the US. Students come to understand that not all music downloads containing music from unfamiliar places are the same, and that particular recordings may be embedded in intriguing and controversial narratives of production and consumption. At the very least, students should emerge from the class with a clear understanding that the production, distribution, and consumption of world music is rarely a neutral process.

051. (AFRC053, AFST053, COML053) Music of Africa. (M) Muller.

African Contemporary Music: North, South, East, and West. Come to know contemporary Africa through the sounds of its music: from South African kwela, jazz, marabi, and kwaito to Zimbabwean chimurenga; Central African soukous and pygmy pop; West African Fuji, and North African rai and hophop. Through reading and listening to live performance, audio and video recordings, we will examine the music of Africa and its intersections with politics, history, gender, and religion in the

colonial and post colonial era. (Formerly Music 053).

SM 052. Sounding the Postcolonial: Music & Resistance from Contredanse to Hip-Hop. Donnelly. Fulfills Communication Within the Curriculum, Jazz, and music minor requirements.

Rapid decolonization in the mid-twentieth century drastically changed the global political landscape and has resulted in postcolonial interactions and relationships. The postcolonial manifests itself in music through the creation of postcolonial music, or, music that emerged or was directly and profoundly altered from the postcolonial condition, and the postcolonial *in* music, or expressions of postcolonial sentiments in music, whether it be through lyrics or other musical factors. Through readings, musical recordings, class discussion, and oral presentations, this course aims to examine and explore the multiple registers (political, economic, social, historical among others) in which the postcolonial is mediated through sound. Topics will include hip-hop as resistance in Paris, bhangra in the United Kingdom, and rai in Algeria among others.

150. Introduction to Ethnomusicology. (M) Muller, Rommen, Sykes. Fulfills the requirements of the Music Major.

This course introduces students to the field of ethnomusicology through a series of case studies that explore a range of traditional, popular, and art musics from around the world. The course takes as a point of departure several works of musical ethnography, musical fiction, and musical autobiography and, through in-depth reading of these texts, close listening to assigned sound recordings, and in-class case studies, generates a context within which to think and write about music.

252. (ANTH242, SAST252) Music of South and Southeast Asia. Sykes.

What role does music play in articulating religious identities and spaces? What is the importance of ritual musics as they persist and change in the modern world? How does music reflect and articulate religious ways of thinking and acting? In this course, we explore these and other questions about the interrelations between music, religion, and ritual in South and Southeast Asia. Focusing on India, Sri Lanka, Malaysia, and Indonesia, the course emphasizes musics from Hindu, Buddhist, Muslim and Christian traditions; nevertheless, it draws widely to touch upon sacred musics in Pakistan, Nepal, Burma,

Thailand, Vietnam, and among some indigenous peoples in the region. Throughout, we explore ontologies of sound; sonic occurrences in religious structures, public processions, and pilgrimage sites; the construction of religion and ritual as ideas forged through colonial encounter and modern scholarship on religion; the politics of sacred sounds in today's public spaces and contemporary media, such as television and online; and the surprising fluidity between popular and sacred musical genres.

255. (AFRC157, FOLK157, LALS157) Accordions of the New World. (M) Rommen.

This course focuses on the musical genres and styles (both traditional and popular) that have grown up around the accordion in the New World. We will begin our explorations in Nova Scotia and move toward the Midwest, travelling through the polka belt. From there, our investigation turns toward Louisiana and Texas--toward zydeco, Cajun, and Tex-Mex music. We will then work our way through Central and South America, considering norteno, cumbia, vallenato, tango, chamame, and forro. Our journey will conclude in the Caribbean, where we will spend some time thinking about merengue and rake-n-scrape music. Throughout the semester, the musical case studies will be matched by readings and film that afford ample opportunity to think about the ways that music is bound up in ethnicity, identity, and class. We will also have occasion to think about the accordion as a multiply meaningful instrument that continues to be incorporated into debates over cultural politics and mobilized as part of strategies of representation through the New World. (Formerly Music 157).

256. (AFRC253, AFST253, ANTH263, FOLK253) Music and Performance of Africa. (M) Muller.

This class provides an overview of the most popular musical styles and discussion of the cultural and political contexts in which they emerged in contemporary Africa. Learning to perform a limited range of African music/dance will be part of this course. No prior performance experience required. (Formerly Music 253).

257. (AFRC258, ANTH256, LALS258) Caribbean Music and Diaspora. (M) Rommen.

This course considers Caribbean musics within a broad and historical framework. Caribbean musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion,

and social structure are embodied in and contested through performance. These initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Caribbean contexts--concepts such as post-colonialism, migration, ethnicity, hybridity, syncretism, and globalization. Each of these concepts, moreover, will be explored with a view toward understanding its connections to the central analytical paradigm of the course--diaspora. Throughout the course, we will listen to many different styles and repertoires of music ranging from calypso to junkanoo, from rumba to merengue, and from dance hall to zouk. We will then work to understand them not only in relation to the readings that frame our discussions but also in relation to our own North-American contexts of music consumption and production. (Formerly Music 258).

258. (AFRC158, LALS158) Latin American Music. (M) Rommen.

This survey course considers Latin American musics within a broad cultural and historical framework. Latin American musical practices are explored by illustrating the many ways that aesthetics, ritual, communication, religion, and social structure are embodied in and contested through performance. These initial inquiries open onto an investigation of a range of theoretical concepts that become particularly pertinent in Latin American contexts--concepts such as post-colonialism, migration, ethnicity, and globalization. Throughout the course, we will listen to many different styles and repertoires of music and then work to understand them not only in relation to the readings that frame our discussions but also in relation to our own, North American contexts of music consumption and production. (Formerly Music 158).

259. Guided Research Ethnomusicology. (C) staff.

Prerequisite(s): Music 150 and 170.

Individual research under the supervision of a member of the faculty. Students who take Music 259 may not take 239 or 279.

350. Seminar in Ethnomusicology. (C) Muller, Rommen, Sykes.

Advanced study in a selected topic in Ethnomusicology.

*Theory & Composition***070. Introduction to Theory and Musicianship: Making Sense of Music. (C)**

Moreno, Primosch, Weesner. Prerequisite(s): There is no prerequisite. Students with some background in music may place out of this course and into Music 170, Theory and Musicianship I.

This course will cover basic skills and vocabulary for reading, hearing, performing, analyzing, and writing music. Students will gain command of musical rudiments, including notation, reading and writing in treble and bass clefs, intervals, keys, scales, triads and seventh chords, and competence in basic melodic and formal analysis. The course will include an overview of basic diatonic harmony, introduction to harmonic function and tonicization. Musicianship skills will include interval and chord recognition, rhythmic and melodic dictation and familiarity with the keyboard. There will be in-depth study of selected compositions from the "common practice" Western tradition, including classical, jazz, blues and other popular examples. Listening skills--both with scores (including lead sheets, figured bass and standard notation), and without--will be emphasized. There is no prerequisite. Students with some background in music may place out of this course and into Music 170, Theory and Musicianship I. (Formerly Music 70, 71).

L/L 170. Theory and Musicianship I.

(A) Moreno, Primosch, Reise, Waltham-Smith, Weesner. Prerequisite(s): Music 070 or successful completion of diagnostic test. Required of music majors.

Introduction to and development of principles of tonal voice-leading, harmonic function, counterpoint, and form through written analysis, composition, improvisation, and written work. Course covers diatonic harmony and introduction to chromaticism. Repertoires will focus on Western classical music. Musicianship component will include sight-singing, dictation keyboard harmony.

L/L 171. Theory and Musicianship II.

(B) Moreno, Reise, Waltham-Smith, Weesner. Prerequisite(s): Music 170. Required of music majors.

Continuation of techniques established in Theory and Musicianship I. Explores chromatic harmony. Concepts will be developed through analysis and model composition. Musicianship component will include sight singing, clef reading, harmonic dictation and keyboard harmony.

L/L 270. Theory and Musicianship III.

(M) Moreno, Primosch, Reise, Waltham-Smith, Weesner. Prerequisite(s): Music 170 and 171. Required of music majors.

Continuation of techniques established in Theory and Musicianship I and II. Concepts will be developed through analysis and model composition. Musicianship component will include advanced sight singing, clef reading, harmonic dictation and keyboard harmony.

271. Composition I: Historical Practices. (M)

Staff. Prerequisite(s): Music 170, 171, 270.

Studies in selected 16th through 19th century compositional practices. Possible topics may include 16th century modal counterpoint; sonata forms in Viennese classicism; advanced chromatic harmony. Course includes analysis of relevant pieces and student compositional projects reflecting course topic.

272. Composition II: Contemporary Practices. (M)

Staff. Prerequisite(s): Music 170, 171, 270.

Studies in selected 20th and 21st century compositional practices. Possible topics may include symmetry in post-tonal harmony; composing for piano; the sonata in the 20th century. Course includes analysis of relevant pieces and student compositional projects reflecting course topic.

273. Orchestration. (M)

Staff. Prerequisite(s): Music 70 or 170.

An introduction to writing for the instruments of the orchestra. Course will include study of individual instruments and various instrumental combinations, including full orchestra. Representative scores from the 18th century to the present day will be analyzed. Students will be responsible for several scoring projects and will have opportunities to hear readings of their projects. Prerequisite: at least two semesters of music theory or permission of instructor. (Formerly 285).

274. Jazz Improvisation. (M)

Primosch, Ramsey. Prerequisite(s): Music 70 or 170.

This introductory "hands-on" course survey applies various theoretical approaches to playing specific idioms of jazz and related musical styles. The approach will be eclectic and includes the study of written scores, recordings, live performances, and selected theoretical treatises. (Formerly Music 145).

275. Electronic Music. (M)

Lew. Prerequisite(s): Music 070 or 170.

MUSC275 offers an introduction to electronic music/sound production with a focus on analogue systems and performance.

SM 276. Performance and Analysis. (C)

Staff. Prerequisite(s): Music 70 or 170.

Participation in the course is contingent upon a successful audition. This course must be taken for a letter grade (pass/fail option may not be utilized for this course). This weekly seminar will explore music from the past and present through class discussions of performance and analytical aspects of the music led by a professor and/or performer. Compared to Music 236, this class will have a more analytical focus. Students will prepare for a final performance at the end of the semester as well as a paper/presentation. Students interested in this applied approach to music may also wish to take 236 and 256.

SM 277. Music and Technology. (A)

Lew. Prerequisite(s): Music 070 or 170.

This course is for Music Majors and minors.

An introduction to music and sound recording with a focus on concerts and live performances. The entire process will be examined from start to finish, including the roles played by composers, musicians, listeners, performance spaces, and recording technology. Meetings will take place in the classroom, in concert spaces and in the studio. Music majors and minors will be given preference for registration.

278. Composition for Musicians.

Weesner. Prerequisite(s): Music 170. Music 170 prerequisite.

A class for aspiring composers.

279. Guided Research in Theory and Composition. staff.

Prerequisite(s): Music 170, 171 and one other tier 2 class.

Individual research under the supervision of a member of the faculty. Students who take Music 279 may not take Music 239 or Music 259.

370. Seminar in Theory and Composition. (M)

Waltham-Smith, Weesner.

Advanced seminar in topics of music theory and compositions.

Other Undergraduate Courses

005. College Music Program. Staff. Permits will be entered after student completes College Music House form. Forms available in Music department.

Private study in voice, keyboard, strings, woodwind, brass, percussion, and non-western instruments. Such study is designed to meet the artistic, technical, and/or professional needs of the student. Note: This is not a syllabus. Course requirements and assessment will be determined by the private instructor. Private lessons in the College House Music cannot be taken Pass/Fail. Please visit <http://www.sas.upenn.edu/music/performance>. Students cannot register through Penn In Touch. Registration will be maintained by the music department upon receipt of application and instructor permission.

007. Ensemble Performance. (C)

Staff. Please contact Ensemble Director if you are interested in taking Music 007 for credit.

Successful participation in a music department sponsored group. Ensemble groups: University Orchestra, University Wind Ensemble, Choral Society, University Choir, Ancient Voices, Baroque and Recorder Ensemble, Chamber Music Society, Arab Music Ensemble, Samba and Jazz Combo. This course must be taken for a letter grade (Pass/Fail registration option may not be utilized for this course).

010. Applied Music. (E) Staff.

Prerequisite(s): Must be a music major or minor.

Instruction in vocal and instrumental performance for music majors and minors only. Students must demonstrate in an audition that they have already attained an intermediate level of musical performance.

SM 056. (AFRC056, AFST056, COML056, MUSC556) Seeing/Hearing South Africa: Politics and History through Contemporary Performance. (M) Arts & Letters Sector. All Classes. Muller.

Student financial services is processing application for financial aid currently.

This course begins in the spring--students engage with South African performance and political history; the history of the festival in Grahamstown; and listen closely to the history of South African jazz. They are given guidelines for writing about live performances; students discuss program choices; and spend some time talking about travel to South Africa and the lived experience of two weeks at the National Arts Festival. Everyone travels to

the National Arts Festival in late June and spends two weeks attending live performances (4-6 per day), blogging on the performances, and discussing these experiences with the Professor & fellow students. We visit a game park and do a "township tour" as part of the two weeks in the Eastern Cape. On returning home, students have about 4 weeks to write a substantial paper on the festival experience. While this is primarily a music class, the National Arts Festival includes all kinds of performance--theater, music, dance, and visual arts. This is two weeks of total immersion in the arts, and thinking deeply about the place of the arts in contemporary life and society.

060. (SAST104) Beginning Tabla I. (M) Staff.

An introduction to the tabla, the premier drum of north Indian and Pakistani classical music traditions.

061. (SAST106) Indian Musical Performance A: Elementary. (C)

Nalbandian.

Introduction to the fundamentals of Indian music; instruction in performance on the sitar.

062. (SAST105) Beginning Tabla II. (B) Staff.

Continued study in Tabla

063. (SAST107) Beginning Sitar II. (C)

Nalbandian. Continuation of MUSC 061.

080. (ENGL080) Literatures of Jazz. (E) Staff.

That modernism is steeped as much in the rituals of race as of innovation is most evident in the emergence of the music we have come to know as jazz, which results from collaborations and confrontations taking place both across and within the color line. In this course we will look at jazz and the literary representations it engendered in order to understand modern American culture. We will explore a dizzying variety of forms, including autobiography and album liner notes, biography, poetry, fiction, and cinema. We'll examine how race, gender, and class influenced the development of jazz music, and then will use jazz music to develop critical approaches to literary form. Students are not required to have a critical understanding of music. Class will involve visits from musicians and critics, as well as field trips to some of Philadelphia's most vibrant jazz venues.

SM 081. (CIMS070, FNAR070) Film Sound and Film Music. Curriculum application 10/2011.

This course is an introduction to classic film scores, music written for movies from the late 1920s to the 1960s. At the same time, we will deal with film sound in general: the technology that made silent movies talk, the rules and tricks of sound and music production for film, and the scientific and aesthetic theories behind different approaches to the soundtrack. One goal of the course is for students to learn to listen analytically to what is heard on a soundtrack. Another is to get a sense for the ways that European classical music (opera and symphony) influenced and continues to influence film composers. Students do not need to read music for this course: we deal with film music on an aural basis and look at musical notation occasionally. Some Musical background (for example, playing an instrument) could be helpful.

161. (SAST108) Intermediate Sitar I. (C) Miner.

North Indian classical music is performed in a format shared by stringed, bowed and wind instruments. intermediate North Indian Instrumental performance is open to students who play a Western or Indian instrument with at least an intermediate degree of proficiency and to those who have completed Beginning Sitar. The course will cover North Indian methods of composition, rhythm and improvisation and focus on two or three performance pieces. A group performance will be given at the end of the semester.

164. (SAST115) India's Classical Musics. (M) Miner.

Hindustani and Karnatak music are among the great classical music systems of the world. Developed in temple, shrine, court, and concert stage environments in North and South India, they have a strong contemporary following in urban South Asia and a significant international presence. This course is an introduction to theory, structures, instruments, and aesthetics. We will work with primary and secondary texts, recordings, videos, and live performances. Topics will cover selected aspects of raga, tala, composition, improvisation and social contexts. The course aims to give students analytical and listening skills with which to approach and appreciate India's classical music. No prior music training is required.

168. The Enterprising Musician and Artist. Ketner. Can be counted toward music minor requirements only.

This course aims to provide students with the skills to ensure that the art they create achieves the maximum impact for their audiences and communities, for their respective fields, and for themselves. The course will also examine the relationship between entrepreneurship and individual artistic development. After arriving at an appropriate definition of entrepreneurship and how it can apply to music and the arts, students will explore the development of creativity and innovation and how that leads to idea generation. Students will then receive instruction in such areas as marketing, fundraising, financial management, and business planning. Guest lectures and the examination of case studies will supplement the instructor's lectures. The course will culminate with each student completing and presenting an individual project and participating in a group project in which the class partners with a local arts organization. Can be counted as a music minor elective only.

265. (SAST005) Performing Arts in South Asia. (C) Arts & Letters Sector. All Classes.

This course is a survey of selected traditions of theater, music, and dance in India and surrounding regions. Topics include ritual practices, theater, classical dance, classical music, devotional music, regional genres, and contemporary popular musics. Readings and lectures are supplemented by audio and visual materials and live performances. The aim of the course is to expose students to a variety of performance practices from this part of the world and to situate the performing arts in their social and cultural contexts. The course has no prerequisites.

266. (SAST116) Music Cult in India & Pak. (C)

SM 290. (ENGL290) Reinventing Nina Simone.

398. Study Abroad.
Study Abroad

399. Independent Study. (C) Staff.
Prerequisite(s): Music 170, 171, 270.

Independent Research Project under faculty supervision

Graduate Studies in Music

Musical Analysis

505. Advanced Chromatic Harmony. (M) Reise.

Analytical Studies in Harmony.

SM 515. Analysis of Twentieth-Century Music. (M) Primosch.

Analytical studies of twentieth-century music.

516. Analysis of 20th Century Music II. (M) Staff.

Analytical Studies of 20th century music focusing on post World War II music.

SM 620. Analytical Methods: Tonal Music. (M) Moreno, Waltham-Smith.

Current methods in the analysis of tonal music.

SM 621. (HSPV638) Analytical Methods: Twentieth-Century Music. (M) Staff.

This seminar will examine the role of sound in shaping modern urban spaces and life. While music plays a large part in the sounds of the city, we will focus on soundscapes more broadly. From the late 19th century through the present, and in geographies spanning from Paris to Philadelphia, we will explore the making, meaning, and experience of sound for varied populations; the politics of sound as an instrument of power; and the policies of noise regulation. As an interdisciplinary seminar supported by the Mellon Humanities+Urbanism+Design Initiative, the course will bring together students and faculty from diverse fields to probe the subject of urban sound through the lenses of both theory and practice. We will read across a wide variety of disciplines, including urban and environmental history, sound studies, urban geography, the history of sensation, musicology, anthropology, and critical theory. We will engage with sound archives, installations, films, and photographs, and also have an opportunity to make field recordings of our own. The format of the final project is flexible and could include a research paper, theoretical essay, visualizations, GIS mapping, sonic compositions, short film, or other types of media.

SM 622. Analytical Methods: Early Music. (M) Staff.

Analytical methods in early music.

Proseminars in the History, Theory, and Anthropology of Music

SM 600. The Interpretation of Evidence. (M) Bernstein.

The nature of evidence; basic methods of musicological research.

SM 601. The Interpretation of Written Traditions. (M) Staff.

Topics may include notation, codicology, editing and print culture.

SM 602. The Interpretation of Theoretical Treatises. (M) Staff.

A consideration of theoretical principles based upon the reading and interpretation of selected treatises.

SM 603. Aesthetics and Criticism. (M) Staff.

Topics may include hermeneutics, methods of formulating value judgements, the relationship of evaluation to interpretation, and the role of aesthetics in history.

SM 604. Historiography. (M) Staff.

Theories and models of historical investigation. Analysis of both historiographic writings and musicological works exemplifying particular approaches.

SM 605. (ANTH605, COML605, FOLK605) Anthropology of Music. (M) Muller, Rommen, Sykes. Open to graduate students from all departments.

Topics may include the intellectual history of ethnomusicology, current readings in ethnomusicology, a consideration of theoretical principles based upon the reading and interpretation of selected monographs, and area studies.

SM 606. (AFRC606, FOLK616) The Interpretation of Oral Traditions. (M) Staff.

Topics may draw on methodologies derived from jazz studies, chant studies, and ethnomusicology.

SM 610. Musical Notation. (M)

Concepts and systems of the notation of medieval and Renaissance music. Chant, monophonic song, and polyphony through the mid-thirteenth century.

650. (ANTH257, ANTH657, FOLK650, MUSC250) Field Methods in Ethnomusicology. (M) Muller, Rommen, Sykes.

The goal of the seminar is to give students a compressed dissertation research experience--taking them from the beginnings of "researching" a community

and its music, through the documentation and representation stages. Students do background and methods reading, though the focus of the class is the development of basic ethnographic and documentation skills. This is a community partnership seminar, which means that all forms of representation are produced in collaboration with community partners in West Philadelphia. These include photographic essays, an NPR style audio documentary, but most significantly, twenty-three minute documentary films on a particular subject. See sample syllabus and projects on <http://ccat.sas.upenn.edu/music/westphillymusic>

SM 705. (AFRC640, AFRC705, ANTH705, FOLK715, GSWS705) Seminar in Ethnomusicology. (A)

Muller, Rommen, Sykes. Open to graduate students from all departments.

Topics in Ethnomusicology.

Seminars in Music

SM 710. (COML638, FREN638) Studies in Medieval Music. (M) Staff.

This course will explore the main repertoires of medieval lyric from the dual perspectives of words and music (and disciplinary perspectives of musicology and literary studies). Our focus will be vernacular song and poetry from the late thirteenth to early fifteenth centuries, including detailed exploration of some of the following: polytextual motet, music and poetry of Adam de la halle, the Roman de Fauvel, Machaut, Ciconia and some early Dufay. In exploring how late thirteenth-century writers and composers defined themselves as part of a tradition, we will also look back to their 'history' -- to the repertory of troubadour lyrics. The course will place particular emphasis on the ways medieval writers and musicians construed their creations, and the many productive tensions between language and sound; singing and speaking; words and music. We will explore how that concern with etymologies of song played out not only in the lyrics themselves, but also in theoretical writing about song, and in its manuscript representation and codification. Included in our discussions will be writings by Johannes de Grocheio, Philippe de Vitry, Brunetto Latini and Deschamps, and consideration of a range of chansonniers, including the Chansonier du roi, the Montpellier codex, and the Machuat manuscripts.

SM 720. (COML720, LALS720) Studies in Renaissance Music. (M)

Staff.

Seminar on selected topics in the music of the Renaissance.

SM 730. Studies in Baroque Music. (M) Staff.

Seminar on selected topics in the music of the Baroque period.

SM 740. Studies in Classical Music. (M) Staff.

Seminar on selected topics in the music of the Classical period.

SM 750. (STSC418) Studies in Nineteenth-Century Music-French Opera Comique and Operetta 1860-1933. (M) Staff.

The late 18th and early 19th centuries saw the invention of many new instruments in both music and science. They were sometimes made by the same people, and they were often understood to have the same purpose: to attune individuals to the rhythms, proportions, and harmonies of nature. This seminar draws connections between music, science, politics, ethics and aesthetics between 1750 and 1850, a crucial point in European history. We will examine the role of instruments in conceptions of nature, society, and the individual, traversing the clockwork regularity of the enlightenment, the turbulent longings of Romanticism, and the spooky delirium of the fantastic. The course begins with light refracting through prisms; it ends with the blaring trombones of Berlioz's opium-induced *Symphonie Fantastique*; along the way we will visit ideas of mimesis, mechanical observation, theories of the passions, global science, demonic virtuosity, phantasmagoria, the uncanny, and the paradoxes of bourgeois selfhood. Students will work with actual instruments, read primary texts, and might meet a 21st century dandy. The class is open to creative undergraduates and graduates from any field who want to explore a range of ideas of what it means to be human in the modern world.

SM 760. Studies in Twentieth-Century Music. (M) Staff.

Seminar on selected topics in the music of the twentieth century.

SM 770. (AFRC771, FOLK770, LALS770) Seminar in Afro-American Music. (M) Ramsey.

This course will consider the American musical landscape from the colonial period to the present with an emphasis, though not

exclusive focus, on non-written traditions. The course is not a chronological journey, but rather a topical treatment of the various issues in the history of American music. Some of the specific, project-oriented activities of the course will consist of, but will not be limited to the following: (1) participating in the development of a traveling exhibition on the Apollo Theater for the Smithsonian Institution; (2) development of a permanent website for a history of jazz course at Penn; (3) reviewing two manuscripts for publication to a major press; (4) developing a working proposal for a history of African American music. In this context students will learn the basics of contemporary music criticism, including: identifying a work's significant musical gestures; positioning those gestures within a broader field of musical rhetoric, conventions, and social contracts; and theorizing the conventions with respect to large systems of cultural knowledge, such as historical, geographical contexts as well as the lived experiences of audiences, composers, performers, and dancers. Other topics covered: origin and development of American popular music and gendered and racial aspects of American classical music.

SM 780. (COML780) Studies in Music Theory and Analysis. (M) Staff.

Seminar on selected topics in music theory and analysis.

Composition

508. Advanced Musicianship. (E) Staff. Prerequisite(s): Reasonable keyboard and sight-reading facility.

Advanced techniques of score reading and general musicianship at the keyboard. Goals of the course include increasing proficiency in sight singing (including C clefs). Taking harmonic, melodic, and rhythmic dictations. Accurate performance of rhythms.

520. Orchestration. (M) Reise.

A study of the instruments of the orchestra and their combination. Frequent written projects.

SM 525. Composition in Selected Forms. (M) Staff.

Study of the style and form of one genre, composer, or historical period, with emphasis on written projects.

SM 530. Introduction to techniques of electronic composition. (M)

Primosch.

Introduction to techniques of electronic composition.

SM 700. Seminar in Composition. (M)

Staff.

Seminar in selected compositional problems, with emphasis on written projects.

Individual Study

797. Preparation PhD Essay. (C)

798. Preparation for the A.M. Comprehensive Examination in Composition. (C)

Preparation for the A.M. Comprehensive Examination in Composition

NAVAL SCIENCE (PV) {NSCI}

100. Naval Science Drill. (C)

Prerequisite(s): Prerequisite (Sophomores, Juniors, Seniors) Fall NSCI 101/Spring NSCI 102. Corequisite(s): Corequisite (Freshmen) Fall NSCI 101/Spring NSCI 102.

A professional laboratory covering various aspects of naval leadership and professional development. While emphasis is given to military marching, formation, and parade, the course also includes lectures from sources in and out of the Navy. Guest speakers cover topics such as leadership, Navy career paths, equal opportunity, rights and responsibilities, AIDS awareness, terrorism/counterterrorism, naval warfare doctrine, employment of naval forces, ethics and values, operations security, and safety.

101. Naval Orientation. (A)

A course designed to familiarize the student with the history, characteristics and present employment of sea power. Particular emphasis is placed upon our naval forces and their capability in achieving and maintaining our national objectives. Naval organization and operational functions are discussed in conjunction with sea power concepts. Additionally, the student is given an insight into the Naval Service, shipboard organization and safety, time management skills and study techniques.

102. Seapower and Maritime Affairs. (B)

Engineering and Nursing students receive credit.

A broad survey of naval history designed to add historical perspective to current defense problems. Topics covered include: naval power as an aspect of national defense policy, navies as an instrument of foreign policy, strategy selection, resource control, technology, and manning.

201. Leadership & Management. (A)

Staff. Only Engineering, Nursing, and Wharton students receive credit.

This course emphasizes principles of leadership, personnel and material management, and subordinate development in the context of the naval organization. Practical applications are explored through experiential exercises and case studies.

202. Navigation I. (B)

Only Engineering students receive credit.

A comprehensive study of the theory and practice of terrestrial, and electronic navigation and the laws of vessel operations. Topics include fundamentals of coastal and harbor piloting, electronic navigation and mean of navigating without reference to land. An in-depth study of the international and inland nautical Rules of the Road is also included. Case studies and practical exercises are used to reinforce the fundamentals of marine navigation.

301. Engineering. (A)

Only Engineering students receive credit.

This course provides an overview of how propulsion and electricity are provided to our Navy's fighting ships. The basic engineering principles relating to thermodynamics, steam propulsion (conventional and nuclear), gas turbine propulsion, internal combustion engines, electricity generation and distribution, and various support systems will be taught. Ship design, stability, damage control, and some engineering-related ethical issues will also be discussed.

302. Weapons. (B)

Only Engineering students receive credit.

This course provides an overview of the theory and concepts underlying modern weapons systems. The principles behind sensors and detection systems, tracking systems, computational systems, weapon delivery systems, and the fire control problem will be examined, with a consistent emphasis on the integration of these components into a "weapons system".

Case studies will be used to illustrate and reinforce concepts introduced in the course.

310. Evolution of Warfare. (H)

This course is designed to add broad historical perspective to understanding military power. Treating war and the military as an integral part of society, the course deals with such topics as: war as an instrument of foreign policy, military influences on foreign policy, the military as a reflection of society, manning and strategy selection.

401. Navigation II. (A)

Insight into modern naval operations is gained through analysis of relative motion pertaining to ships at sea, underway replenishment, shiphandling, and tactical communications. The process of command and control and leadership is examined through case studies of actual incidents at sea.

402. Leadership and Ethics. (B)

Only Wharton students receive credit.

The capstone course of the NROTC curriculum, this course is intended to provide the midshipman with the ethical foundation and basic leadership tools to be effective junior officers. Topics such as responsibility, accountability, ethics, the law of armed conflict, military law, division organization and training, and discipline are introduced through practical exercises, group discussion, and case studies.

410. Maneuver Warfare. (I)

Maneuver Warfare is designed to provide a foundation of knowledge regarding leadership, tactics, and general military skills. Specific topics range from introduction to leadership and problem resolution, to Boyd's decision cycle and military law. Ideas are introduced and reinforced through a wide range of instructional methods, to include lecture, group discussion, practical application, and case studies.

**NEAR EASTERN
LANGUAGES AND
CIVILIZATIONS
(AS) {NELC}**

08. (STSC016) Islamic Science.

499. HONORS THESIS. (C)

298. STUDY ABROAD.

499. INDEPENDENT STUDY.

GENERAL

298. Study Abrod: Major Credit. (M)

**NEAR EASTERN NON-
LANGUAGE COURSES IN
LITERATURE, HISTORY AND
CULTURE**

SM 008. (COML014, GSWS008)

Critical Speaking Seminar. (C) rafii.

Prerequisite(s): None. Corequisite(s): none.

American political discourse, especially since September 11th, has often depicted Islam as an oppressive force from which both Muslims and non-Muslims, particularly women and gender/sexual minorities, must be saved. In this CWiC critical speaking seminar, we will investigate how oral and written narratives--such as political rhetoric, apologetics and historical sources--claim to establish unassailable "facts" about Islam, Muslims and the Middle East. We will also investigate how the notion of empire--both in its traditionally understood form in Islamic and European history, as well as in its iterations as US Military and soft power--privileges certain voices over others, and how we can reclaim the voices of the marginalized in both contemporary discourse as well as historical oral traditions.

SM 009. Critical Writing Seminar in Near Eastern Languages and Civilizations. (C) Staff.

This is a critical writing seminar. It fulfills the writing requirement for all undergraduates. As a discipline-based writing seminar, the course introduces students to a topic within its discipline but throughout emphasizes the development of critical thinking, analytical, and writing skills. For current listings and descriptions, visit the Critical Writing Program's website at www.writing.upenn.edu/critical.

L/R 031. (HIST081) History of the Middle East Since 1800. (C) History & Tradition Sector. All classes. Kashani-Sabet.

A survey of the modern Middle East with special emphasis on the experiences of ordinary men and women as articulated in biographies, novels, and regional case studies. Issues covered include the collapse of empires and the rise of a new state system following WWI, and the roots and consequences of the Palestinian-Israeli conflict, the Iranian revolution and the U.S.-Iraq War. Themes include: the colonial encounter with Europe and the emergence of nationalist movements, the relationship between state and society, economic development and international relations, and religion and cultural identity. Requirements: one paper and two take-home exams.

032. (HIST084) Topics in 20th C. Middle East. (C) Kashani-Sabet.

If "the clash of civilizations" is the first image that jumps to mind when thinking about the modern Middle East, then this is the course for you. From the familiar narratives about the creation of modern nation-states to the oft-neglected accounts of cultural life, this course surveys the multi-faceted societies of the twentieth-century Middle East. Although inclusive of the military battles and conflicts that have affected the region, this course will move beyond the cliches of war and conflict in the Middle East to show the range of issues and ideas with which intellectuals and governments grappled throughout the century. The cultural politics and economic value of oil as well as the formation of a vibrant literary life will be among the topics covered in the course. By considering illustrative cultural moments that shed light on the political history of the period, this course will adopt a nuanced framework to approach the Arab/Israeli conflict, the history of the Gulf States, the Iran-Iraq War, and U.S. involvement in the region.

SM 037. People of Modern Egypt. (M) Sharkey. Freshman Seminar.

During the past hundred years, Egypt has been the cultural and political pacesetter in the Middle East. It has been on the cutting edge of developments in Arabic literature, movies, and music, and has produced intellectual leaders ranging from feminists to Muslim activists. In the 1950s and '60s, the Egyptian president Gamal Abdel Nasser inspired the pan-Arab movement and at the same time made his country a central player in postcolonial Africa. Meanwhile, Egypt led the Arab countries in opposing

the state of Israel until breaking ranks in 1978 to sign peace accords at Camp David. In this class, we will approach the history of twentieth-century Egypt through the lives of a spectrum of its peoples, including Muslims, Christians, and Jews; presidents and peasants; singers, writers, and radical thinkers. Along the way we will examine the social pressures that have inspired modern Egyptian revolutionaries and militants, and attempt to explain the reasons for the country's continuing prominence in the Arab and Muslim worlds.

SM 038. (AFST038) Narrative Journeys: Africa and Asia. (A) Staff.

Have you ever read the Tales of Sindbad and his travels? Do you like narratives about journeys, both ancient and contemporary? The purpose of this seminar is to introduce freshmen to a variety of narratives in different literary genres; to do so through the theme of the journey, whether it be a physical journey from one place to another, a process of change--a rite of passage perhaps, or an inward psychological quest. Female and male authors are presented, as are different periods in the long history of the Middle East and Africa. All the texts to be read are in English translation.

046. (ANCH046, RELS014) Myths and Religions of the Ancient World. (B) History & Tradition Sector. All classes. Frame.

This course will survey the religions of the ancient Middle East, situating each in its historical and socio-cultural context and focusing on the key issues of concern to humanity: creation, birth, the place of humans in the order of the universe, death, and destruction. The course will cover not only the better-known cultures from the area, such as Egypt and Mesopotamia, but also some lesser-known traditions, such as those of the Hurrians, or of the ancient Mediterranean town of Ugarit. Religion will not be viewed merely as a separate, sealed-off element of the ancient societies, but rather as an element in various cultural contexts, for example, the relationship between religion and magic and the role of religion in politics will be recurring topics in the survey. Background readings for the lectures will be drawn not only from the modern scholarly literature, but also from the words of the ancients themselves in the form of their myths, rituals, and liturgies.

SM 047. Magical Science: Sages, Scholars and Knowledge in Babylon and Assyria. (M) Tinney. Freshman Seminar.

From sympathetic rituals to cure sexual dysfunction to the sages' esoteric creation of worlds through the manipulation of words, we will learn from the ancient writings of Assyria and Babylonia just what knowledge was, what it was good for, and how it was divided up. This interdisciplinary course will combine literary, anthropological, historical and cultural approaches to textual, archaeological and iconographic data to bring to life the world, words and beliefs of these ancient intellectuals.

048. Introduction to Mesopotamian Civilization. (M) History & Tradition Sector. All classes. Tinney.

This class provides a chronologically organized survey of ancient Mesopotamian culture and history from the dawn of urbanization to the advent of the Greeks. Material culture and primary texts in translation are discussed in their contexts, introducing alongside the history such topics as urbanization and state formation; the invention of writing and the development of education; the king and his scholars in the Assyrian empire; the epic of Gilgamesh and other major works of Sumerian and Akkadian literature. One class will be held at the Penn Museum and will include hands-on experience of cuneiform school texts.

SM 049. Myths of Ancient Mesopotamia. (M) Tinney. Sometimes offered as a Freshman Seminar.

Iraq's ancient civilizations, Sumer, Babylon and Assyria, have emerged spectacularly from their ruin mounds over the last century and a half. In this class we will read the core myths of these cultures in translation and situate them in their literary, historical, religious and cultural contexts. The case of characters includes, among other, Enki, trickster and god of wisdom; Inana, goddess of sex and war; and Marduk, warrior son, slayer of the sea, king of the gods and founder of Babylon. Themes range from creation to flood, from combat to the dangers of humans acting in the worlds of the divine, to the heroic peregrinations of Gilgamesh as he wrestles with monsters, fate and the pain of mortality.

051. (HIST139, JWST156, NELC451, RELS120) History of Jewish Civilization I--Jews and Judaism in Antiquity: From the Bible to the Talmud. (A) Dohrmann.

The course is an overview of Jewish history, culture, and society from its biblical settings through the Hellenistic-Roman, and early rabbinic periods. The course will trace the political, social, and intellectual-religious, and literary development of Judaism in its formative centuries, building from an awareness of the impact of imperial power on Jewish thoughts, politics, and culture. Topics to be covered include: the evolution of biblical thought and religious practice over time; Jewish writing and literary genres; varieties of Judaism; Judaism and Imperialism; the emergence of the rabbinic class and institutions.

052. (HIST140, JWST157, NELC452, RELS121) Medieval and Early Modern Jewry. (A) History & Tradition Sector. All classes. Ruderman.

Exploration of intellectual, social, and cultural developments in Jewish civilization from the dawn of rabbinic culture in the Near East through the assault on established conceptions of faith and religious authority in 17th century Europe. Particular attention will be paid to the impact of Christian and Muslim "host societies" on expressions of Jewish culture.

053. (HIST141, JWST158, RELS122) The History of Jewish Civilization from the Late Seventeenth Century to the Present. (B) History & Tradition Sector. All classes. Ruderman.

This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.

061. (NELC463) Literary Legacy of Ancient Egypt. (M) Houser Wegner.

This course surveys the literature of Ancient Egypt from the Old Kingdom through the Graeco-Roman period, focusing upon theme, structure, and style, as well as historical and social context. A wide range of literary genres are treated,

including epics; tales, such as the "world's oldest fairy tale;" poetry, including love poems, songs, and hymns; religious texts, including the "Cannibal Hymn"; magical spells; biographies; didactic literature; drama; royal and other monumental inscriptions; and letters, including personal letters, model letters, and letters to the dead. Issues such as literacy, oral tradition, and the question poetry vs. prose are also discussed. No prior knowledge of Egyptian is required.

062. (AFST062) Land of the Pharaohs. (C) History & Tradition Sector. All classes. Wegner.

This course provides an introduction to the society, culture and history of ancient Egypt. The objective of the course is to provide an understanding of the characteristics of the civilization of ancient Egypt and how that ancient society succeeded as one of the most successful and long-lived civilizations in world history.

064. (NELC664) The World of Cleopatra. (M) Houser Wegner.

The figure of Cleopatra is familiar from modern stories, legends, and film. Was this famous woman a brazen seductress or a brilliant political mind? How many of these presentations are historically accurate? This class will examine the Ptolemaic period in Egypt (305-30 BCE), the time period during which Cleopatra lived, in an attempt to separate myth from reality. The Ptolemaic period is filled with political and personal intrigue. It was also a time of dynamic multiculturalism. Arguably one of the most violent and fascinating eras in ancient Egyptian history, the Ptolemaic period is largely unknown and often misunderstood. This course will examine the history, art, religion and literature of Egypt's Ptolemaic period which culminated in the reign of Cleopatra VII.

068. (NELC668) Art and Architecture in Ancient Egypt. (M) Silverman.

This course will be an introduction to the art, architecture and minor arts that were produced during the three thousand years of ancient Egyptian history. This material will be presented in its cultural and historical contexts through illustrated lectures and will include visits to the collection of the University Museum.

L/R 085. Life and Death in Ancient China and Ancient Egypt. (M)

Humanities & Social Science Sector. Class of 2010 & beyond. Steinhardt/Silverman/Wegner.

Using materials excavated in tombs, this course investigates funerary cults, death rituals, beliefs about the afterlife, and the preparations for death during life in China from 1500 BCE to AD 1000 and in Egypt from 3000-1000 BCE.

L/R 101. (ANCH025, HIST024) Introduction to the Ancient Near East. (A)

History & Tradition Sector. All classes. Frame.

The great pyramids and mysterious mummies of Egypt, the fabled Tower of Babel, and the laws of the Babylonian king Hammurabi are some of the things that might come to mind when you think of the ancient Near East. Yet these are only a very few of the many fascinating -- and at time perplexing -- aspects of the civilizations that flourished there c. 3300-300 BCE. This is where writing first developed, where people thought that the gods wrote down what would happen in the future on the lungs and livers of sacrificed sheep, and where people knew how to determine the length of hypotenuse a thousand years before the Greek Pythagoras was born. During this course, we will learn more about these other matters and discover their place in the cultures and civilizations of that area.

This is an interdisciplinary survey of the history, society and culture of the ancient Near East, in particular Egypt and Mesopotamia, utilizing extensive readings from ancient texts in translation (including the Epic of Gilgamesh, "one of the great masterpieces of world literature"), but also making use of archaeological and art historical materials. The goal of the course is to gain an appreciation of the various societies of the time, to understand some of their great achievements, to become acquainted with some of the fascinating individuals of the time (such as Hatshepsut, "the women pharaoh," and Akhenaten, "the heretic king"), and to appreciate the rich heritage that they have left us.

102. (HIST023) Intro to Middle East.

(B) History & Tradition Sector. All classes. Cobb, Sharkey.

This is the second half of the Near East sequence. This course surveys Islamic civilization from circa 600 (the rise of Islam) to the start of the modern era and concentrates on political, social, and cultural trends. Although the emphasis will be on Middle Eastern societies, we will occasionally consider developments in

other parts of the world, such as sub-Saharan Africa, Central Asia, and Spain, where Islamic civilization was or has been influential. Our goal is to understand the shared features that have distinguished Islamic civilization as well as the varieties of experience that have endowed it with so much diversity.

103. (ANTH121, URBS121) Origin and Culture of Cities. (A)

History & Tradition Sector. All classes. Zettler.

The UN estimates that 2.9 of the world's 6.1 billion people live in cities and that this percentage is rapidly increasing in many parts of the world. This course examines urban life and urban problems by providing anthropological perspectives on this distinctive form of human association and land use. First we will examine the "origin" of cities, focusing on several of the places where cities first developed, including Mesopotamia and the Valley of Mexico. We will then investigate the internal structure of non-industrial cities by looking at case studies from around the world and from connections between the cities of the past and the city in which we live and work today.

104. Jerusalem through Ages. (M)

Staff. Offered through the College of Liberal and Professional Studies.

A study of Jerusalem, the sacred city for three different world religions, is fundamental to a rich understanding of the history and religions of the Middle East. Beginning in antiquity and continuing through the medieval and modern periods, this course will chronicle the rise, fall and reconstruction of Jerusalem many times over. Particular emphasis will be placed on the archaeology and architecture of the city, the phenomenology of sacred space, the meanings of Jerusalem in art, and the religious history of the city. We will investigate the meanings Jerusalem has had in the past and will also consider current questions about its future.

SM 118. (CIMS118, COML120, GSWS118, GSWS418, NELC618) Iranian Cinema: Gender, Politics and Religion. (A)

Entezari. This seminar explores Iranian culture, society, history and politics through the medium of film. We will examine a variety of cinematic works that represent the social, political, economic and cultural circumstances of contemporary Iran, as well as the diaspora. Along the way, we will discuss issues pertaining to gender, religion, nationalism, ethnicity, and the role of cinema in Iranian society and beyond. Discussions topics will also include the

place of the Iranian diaspora in cinema, as well as the transnational production, distribution, and consumption of Iranian cinema. Films will include those by internationally acclaimed filmmakers, such as Rakhshan Bani-Etemad, Asghar Farhadi, Bahman Ghobadi, Abbas Kiarostami, Mohsen Makhmalbaf, Dariush Mehrjui, Tahmineh Milani, Jafar Panahi, Marjane Satrapi and others. All films will be subtitled in English. No prior knowledge is required.

SM 119. (CIMS119, COML129) Middle Eastern Cinema. (M)

Staff.

In the past two decades, films from the Middle East have gained exceptional international reception. This course is designed to explore the reasons behind this reception through a study of the prevalent social, political, and historical themes and issues in Middle Eastern cinema. Questions such as women's laws, literature and its function, familial issues and gender roles, historical legacies and political tensions, and religion, will be discussed. This course assumes no previous knowledge of film studies or languages of the region. Films from Israel, the Arab World, Turkey, and Iran will be shown in subtitled versions.

130. (RELS140) Introduction to the Qur'an. (M)

Humanities & Social Science Sector. Class of 2010 & beyond. Lowry.

The goal of this course is to provide students with a general introduction to the holy scripture of the religion of Islam, the Qur'an. In particular, students will become familiar with various aspects of Qur'anic content and style, the significance of the Qur'an in Islamic tradition and religious practice, scholarly debates about the history of its text, and contemporary interpretations of it. Through close readings of a wide range of passages and short research assignments, students will gain first-hand knowledge of the Qur'an's treatment of prophecy, law, the Biblical tradition, and many other topics. No previous background in Islamic studies or Arabic language is required for this course.

SM 132. Origins of Islamic Political Thought. (C)

Lowry.

This seminar will introduce students to the early and medieval tradition of Islamic political thought. The course will begin by examining notions of power in the Qur'an, and then turn to the career of the Prophet Muhammad. Much of the course will then be devoted to a consideration of the formation of the institution of the caliphate and of resistance of various kinds to caliphal legitimacy and authority.

Medieval responses to the caliphate and its waning will also be considered, as well as the distinctive contribution of Iranian ideas and the Iranian heritage to Islamic political thought. The course will conclude with a brief consideration of some contemporary appropriations of the tradition. (This course will not cover the important, but arguably discrete topic of the reception of Greek political thought in the Islamic intellectual tradition.) The majority of the readings consist of translations of primary Arabic and Persian sources. Due consideration will be given to the literary character of these sources, as well as to the question of the limits of the qualifiers "Islamic" and "Muslim" in regard to the political ideas that emerge from the readings.

SM 133. Penn/Philadelphia/and the Middle East. (C) Sharkey,H.

This seminar explores the historic engagement of the University of Pennsylvania and its faculty, students, and graduates in the Near and Middle East. It does so while drawing on archives, rare books and manuscripts, and artifacts that are now preserved in the University Archives, the Penn Museum, and the Penn Libraries. Together we will consider how, beginning in the late nineteenth century, Penn scholars engaged in archaeological expeditions to celebrated sites like Ur (in what is now Iraq) and Memphis (in Egypt) and how some of these efforts influenced the late Ottoman Empire's policies towards antiquities and museums. We will examine how Penn's curriculum changed over time to accommodate Semitics, including the study of languages and biblical traditions, in light of or in spite of historic tensions at the university between secular and religious learning. We will assess how Penn responded to changing American popular attitudes and U.S. foreign policy concerns relative to the Middle East, including during the Cold War and post-2001 (post-9/11) eras. Finally, we will trace the stories or biographies of some individual objects in Penn collections in order to appreciate the university's roles in collecting, preserving, analyzing, and disseminating knowledge about the region's deep cultural heritage. Ultimately, by investigating and writing

134. Getting Crusaded. (H) History & Tradition Sector. All classes. Cobb.

What did it feel like to get crusaded? In this course, we will examine the roughly two-century period from the call of the First Crusade in 1095 to the final expulsion of Latin Crusaders from the Middle East in 1291. Our examination will be primarily from the perspective of the invaded, rather

than the invaders, as is usually done. How did the Muslims, Jews, and Eastern Christians of the medieval Middle East respond to the presence of Frankish invaders from Europe?

136. (RELS143, SAST139) Introduction to Islam. (A) Elias.

This course is an introduction to Islam as a religion as it exists in societies of the past as well as the present. It explores the many ways in which Muslims have interpreted and put into practice the prophetic message of Muhammad through historical and social analyses of varying theological, philosophical, legal, political, mystical and literary writings, as well as through visual art and music. The aim of the course is to develop a framework for explaining the sources and symbols through which specific experiences and understandings have been signified as Islamic, both by Muslims and by other peoples with whom they have come into contact, with particular emphasis given to issues of gender, religious violence and changes in beliefs and behaviors which have special relevance for contemporary society.

139. (HIST189) Modern Egypt. (C) Troutt-Powell.

This course will seek to explore how Egyptian culture has dealt with its many pasts by investigating early modern and modern Egyptian history. With an emphasis on the 18th century to the present we will explore the culture of Egypt under the Ottoman Empire, slavery in Egypt, the unsuccessful French attempt to colonize Egypt and the successful British occupation of the country.

SM 145. Ancient Iraq: Mesopotamian Culture and Its Legacy. (M) Frame. Sometimes offered as a Benjamin Franklin Seminar.

A study of Mesopotamian civilization, its cultural impact on the ancient Near East and the Bible, and the legacy it bequeathed to Western civilization. Topics will include Mesopotamian religion, law, literature, historiography, and socio-political institutions.

150. (JWST150, NELC450, RELS125) Introduction to the Bible (The "Old Testament"). (A) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

An introduction to the major themes and ideas of the Hebrew Bible (the Old Testament), with attention to the contributions of archaeology and modern Biblical scholarship, including Biblical criticism and the response to it in Judaism

and Christianity. All readings are in English.

SM 152. (JWST152, RELS127) Jewish Law & Ethics. (A) Staff. Freshman Seminar.

An introduction to the literary and legal sources of Jewish law within an historical framework. Emphasis will be placed upon the development and dynamics of Jewish jurisprudence, and the relationship between Jewish law and social ethics.

154. (GRMN262, GSWS162) Women in Jewish Literature. (M) Arts & Letters Sector. All Classes. Hellerstein.

This course introduces students of literature, women's studies, and Jewish studies to the long tradition of women as readers, writers, and subjects in Jewish literature. All texts will be in translation from Yiddish and Hebrew, or in English. Through a variety of genres--devotional literature, memoir, fiction, and poetry -- we will study women's roles and selves, the relation of women and men, and the interaction between Jewish texts and women's lives. The legacy of women in Yiddish devotional literature will serve as background for our reading of modern Jewish fiction & poetry from the past century. The course is divided into five segments. The first presents a case study of the Matriarchs Rachel and Leah, as they are portrayed in the Hebrew Bible, in rabbinic commentary, in pre-modern prayers, and in modern poems. We then examine a modern novel that recasts the story of Dinah, Leah's daughter. Next we turn to the seventeenth century Glikl of Hamel, the first Jewish woman memoirist. The third segment focuses on devotional literature for and by women. In the fourth segment, we read modern women poets in Yiddish, Hebrew, and English. The course concludes with a fifth segment on fiction and a memoir written by women in Yiddish, Hebrew, and English.

"Jewish woman, who knows your life? In darkness you have come, in darkness do you go." J. L. Gordon (1890)

155. (ANTH124, JWST124, RELS024) ARCHAEOLOGY & THE BIBLE. (M) Zettler.

The Hebrew Bible (Tanakh) and archaeological research provide distinct, and at times conflicting, accounts of the origins and development of ancient Israel and its neighbors. Religion, culture and politics ensure that such accounts of the past have significant implications for the world we live in today. In this course we will discuss the latest archaeological research from Israel, the Palestinian

Territories, and Jordan as it relates to the Bible, moving from Creation to the Babylonian Exile. Students will critically engage the best of both biblical and archaeological scholarship. Open discussions of the religious, social and political implications of the material covered will be an important aspect of the course.

SM 156. (COML057, JWST151, NELC456, RELS027) Great Books of Judaism. (A) Arts & Letters Sector. All Classes. Staff.

The Babylonian Talmud (Bavli), a product reflecting the collaborative effort of generations of sages, is the foundational legal and ethical document of rabbinic Judaism. Both the methods of interpreting this text --and their theoretical frameworks-- have varied dramatically, evolving creatively throughout the generations. In the past century, theories of how to read the Talmud and hypotheses about its formation and redaction have opened up new avenues for understanding what the text says and, more importantly, how it works. Through in-depth examination of demonstrative legal passages, this course will contrast the insights generated by the major critical schools of the past century and with the interpretations of selected medieval scholars, the Rishonim. English translations will be provided alongside the original texts. Previous study of Talmud is helpful.

SM 158. (COML257, JWST153, NELC458, RELS223) Jewish Literature in the Middle Ages in Translation. (C) Fishman.

Course explores the cultural history of Jews in the lands of Islam from the time of Mohammed through the late 17th century (end of Ottoman expansion into Europe) -- in Iraq, the Middle East, al-Andalus and the Ottoman Empire. Primary source documents (in English translation) illuminate minority-majority relations, internal Jewish tensions (e.g., Qaraism), and developments in scriptural exegesis, rabbinic law, philosophy, poetry, polemics, mysticism and liturgy. Graduate students have additional readings and meetings. Spring 2015

159. (CIMS159, COML282, ENGL079, JWST154) Modern Hebrew Literature and Culture in Translation. (C) Arts & Letters Sector. All Classes. Gold. There will be five film screenings; the films will also be placed on reserve at the library for those students unable to attend. The content of this course changes from year to year, and therefore, students may take it for credit more than once.

Fall 2016: In the first decade of the new millennium, the so called "Second Generation", children of Holocaust survivors reached maturity. Only in their 40s and 50s they finally began confronting and reconstructing their parents' experiences, as well as their own nightmarish childhoods. These include striking narratives *Our Holocaust* by Amir Gutfreund and *Corner People* by Esty G. Hayim as well as films like *Walk on Water*. The third generation is also returning to the forbidden story with prize winning films like "The apartment." The quintessential Holocaust narrative *The Diary of Anne Frank* appeared in 1947, one year prior to the establishment of the Jewish State. Nevertheless, Israeli culture "waited" until the public trial of Adolf Eichmann in 1961 to hesitantly face the momentous catastrophe. The Zionist wish to forge a "New Jew" motivated this suppression, at least in part. Aharon Appelfeld's stories were the first Holocaust-related works to enter the modernist literary scene in the 1960s, followed by the cryptic verse of Dan Pagis, a fellow child survivor. It was not until 1988 that this practice of concealing the past was broken, when two Israeli-born pop singers, children of survivors, released the watershed documentary "Because of That War."

This course will follow and analyze the transformation of Israeli literature and cinema from instruments of suppression into a means of processing this national trauma. While Israeli works constitute much of the course's material, European and American film and fiction play comparative roles.

166. (NELC468, RELS114) The Religion of Ancient Egypt. (M) Silverman/Wegner.

Weekly lectures (some of which will be illustrated) and a field trip to the University Museum's Egyptian Section. The multifaceted approach to the subject matter covers such topics as funerary literature and religion, cults, magic religious art and architecture, and the religion of daily life.

168. (AFST168, GSOC168, NELC568) Women in Ancient Egypt. (M) Houser Wegner.

This class will examine the many roles played by women in ancient Egypt. From goddesses and queens, to wives and mothers, women were a visible presence in ancient Egypt. We will study the lives of famous ancient Egyptian women such as Hatshepsut, Nefertiti and Cleopatra. More independent than many of their contemporaries in neighboring areas, Egyptian women enjoyed greater freedoms in matters of economy and law. By examining the evidence left to us in the literature (including literary texts and non-literary texts such as legal documents, administrative texts and letters), the art, and the archaeological record, we will come away with a better understanding of the position of women in this ancient culture.

180. (COML125, ENGL103, FOLK125) Narrative Across Cultures. (C) Arts & Letters Sector. All Classes. Staff.

The purpose of this course is to present a variety of narrative genres and to discuss and illustrate the modes whereby they can be analyzed. We will be looking at some shorter types of narrative: short story, the novella, and the fable, but also some extracts from longer works such as autobiography. While some of the works will be from the Anglo-American tradition, a large number of others will be from European and non-Western cultural traditions and from earlier time periods. The course will thus offer ample opportunity for the exploration of the translation of cultural values in a comparative perspective.

182. (ANTH139, URBS139) Ancient Civilizations of the World. (M) History & Tradition Sector. All classes. Zettler.

The archaeology of the complex societies of the Old and New Worlds from the end of the paleolithic up to and including the earliest civilizations.

186. (JWST102, JWST126, RELS126) Jewish Mysticism. (M) Arts & Letters Sector. All Classes. Fishman.

Survey of expressions of Jewish mysticism from Hebrew Scripture through the 21st century. Topics include rabbinic concerns about mystical speculation, the ascent through the celestial chambers -heikhalot-, the Book of Creation, the relationship of Jewish philosophy and mysticism, techniques of letter permutation, schematization of the Divine Body, the prominence of gender and sexuality in kabbalistic thought, the relationship of kabbalah to the practice of the

commandments, Zohar, Lurianic kabbalah, Hasidism, New-Age Jewish spirituality and the resurgence of Jewish mysticism in the 20th century. All readings will be in English translation.

188. (HIST188) Revolutions Middle East.

201. (COML212) Modern Middle Eastern Literature in Translation. (B)
Arts & Letters Sector. All Classes.
Allen/Gold.

The Middle East boasts a rich tapestry of cultures that have developed a vibrant body of modern literature that is often overlooked in media coverage of the region. While each of the modern literary traditions that will be surveyed in this introductory course—Arabic, Hebrew, Persian and Turkish—will be analyzed with an appreciation of the cultural context unique to each body of literature, this course will also attempt to bridge these diverse traditions by analyzing common themes—such as modernity, social values, the individual and national identity—as reflected in the genres of poetry, the novel and the short story. This course is in seminar format to encourage lively discussion and is team-taught by four professors whose expertise in modern Middle Eastern literature serves to create a deeper understanding and aesthetic appreciation of each literary tradition. In addition to honing students' literary analysis skills, the course will enable students to become more adept at discussing the social and political forces that are reflected in Middle Eastern literature, explore important themes and actively engage in reading new Middle Eastern works on their own in translation. All readings are in English.

233. Arabic Literary Heritage. (A)
Fakhreddine.

This course provides a survey of the genres and major figures in Arabic literary history from the 6th century up to the present day. Selections will be read in translation after a general introduction to the cultural background and a session devoted to the Qur'an and its influence, a sequence of sessions will be devoted to poetry, narratives, drama, and criticism. Each set of texts is accompanied by a collection of background readings which place the authors and works into a literary, political and societal context. This course thus attempts to place the phenomenon of "literature" into the larger context of Islamic studies by illustrating the links between Arab litterateurs and other contributors to the development of an

Islamic/Arab culture on the one hand and by establishing connections between the Arabic literary tradition and that of other (and particularly Western) traditions.

SM 234. The Mongol Experience. (M)
Cobb.

Was Genghis Khan really such a bad guy after all? Were the Mongol Invasions of the 13th century really a disaster? It almost seems immoral to ask questions like this, but in this class we'll go ahead and ask them anyway. This course is a survey of the history of the medieval Mongol Empire, which, at its greatest extent, stretched from Korea to Germany. We will focus more specifically on that smaller Middle Eastern piece of the empire known as the Il-Khanate, which merely stretched from Turkey to Afghanistan, and made Iran a locus for synthesizing the cultures of Iran, the Arab world, Central Asia, and China. It also produced a lasting political, economic, and cultural legacy throughout much of the Middle East and beyond.

SM 235. (HIST205, JWST205, RELS212) Food in the Islamic Middle East: History, Memory, Identity. (M)
Sharkey.

In the tenth century, a scholar named Ibn Sayyar al-Warraq produced an Arabic manuscript called *Kitab al-Tabikh* ("The Book of Cooking.") This volume, which compiled and discussed the recipes of eighth- and ninth-century Islamic rulers (caliphs) and their courts in Iraq, represents the oldest known surviving cookbook of the Arab-Islamic world. Many more such cookbooks followed; in their day they represented an important literary genre among cultured elites. As one food historian recently noted, "there are more cookbooks in Arabic from before 1400 than in the rest of the world's languages put together". This course will take the study of Ibn Sayyar's cookbook as its starting point for examining the cultural dynamics of food. The focus will be on the Middle East across the sweep of the Islamic era, into the modern period, and until the present day, although many of the readings will consider the study of food in other places (including the contemporary United States) for comparative insights. The class will use the historical study of food and "foodways" as a lens for examining subjects that relate to a wide array of fields and interests. These subjects include politics, economics, agricultural and environmental studies, anthropology, literature, religion, and public health. With regard to the modern era, the course will pay close attention to the

social consequences of food in shaping memories and identities - including religious, ethnic, national, and gender-based identities - particularly among people who have dispersed or otherwise migrated.

238. (RELS248) Introduction to Islamic Law. (A) Lowry.

This course will introduce students to classical Islamic law, the all-embracing sacred law of Islam. Among the world's various legal systems, Islamic law may be the most widely misunderstood and even misrepresented; certainly, misconceptions about it abound. Islamic law is, however, the amazing product of a rich, fascinating and diverse cultural and intellectual tradition. Most of the readings in this course will be taken from primary sources in translation. Areas covered will include criminal law, family law, law in the Quran, gender and sexuality, the modern application of Islamic law, Islamic government and other selected topics.

SM 239. (ASAM239, NELC539, SAST269) Migration and the Middle East. (M) Sharkey.

This reading- and discussion-intensive seminar examines the phenomenon of migration into, out of, within, and across the Middle East and North Africa. We will focus on the period from the late nineteenth century to the present, and will emphasize the cultural (rather than economic) consequences of migration. Along the way we will trace connections between the Middle East and other regions-- notably the Americas, sub-Saharan Africa, South Asia, the Caucasus, and Western Europe. Readings are interdisciplinary and include works of history, anthropology, sociology, medical research, literature, political science, geography, and human rights advocacy. As students develop final projects on topics of their choice, we will spend time throughout the semester discussing tactics for research and writing.

241. (ANTH236, ANTH636, NELC641, URBS236) Iraq: Ancient Cities and Empires. (M) Zettler.

This course consists of an analytical survey of civilization in the ancient Mesopotamia from prehistoric periods to the middle centuries of the first millennium B.C. A strong focus is placed on Mesopotamia (Iraq, eastern Syria) proper, but it occasionally covers its adjacent regions, including Anatolia (Turkey), north-central Syria, and the Levantine coast. As we chronologically examine the origin and development of civilization in the region, various social, political, economic, and ideological topics will be explored,

including subsistence, cosmology, writing, trade, technology, war, private life, burial custom, and empire. Based on both archaeological and historical evidence, these topics will be examined from archaeological, anthropological, historical and art historical perspectives. Students will be exposed to a variety of theoretical approaches and types of relevant evidence, including settlement survey data, excavated architectural remains and artifacts, and written documents. The course aims to provide students with a strong foundation for further study in Near Eastern civilization.

242. (AAMW543, ANCH542, NELC542) Early Empires of the Ancient Near East: The Neo-Assyrian Empire. (M) Frame.

Prerequisite(s): NELC 101 or permission of the instructor.

The Assyrians appear as destructive and impious enemies of the Israelites and Judeans in various books of the Bible and this view is reflected in Lord Byron's poem: "The Assyrian came down like the wolf on the fold, / And his cohorts were gleaming in purple and gold" (Hebrew Melodies. The Destruction of Sennacherib). In the ninth, eighth and seventh centuries BCE, Assyrian armies marched out from their homeland in northern Iraq to Iran in the East, Egypt in the West, the Persian Gulf in the south and central Turkey in the north, and they created the largest empire known up until that time. They built impressive palaces and cities, created great works of art and have left us a vast number of documents preserving ancient literature and scholarly knowledge. In the course we will look at the structure of the Assyrian state, Assyrian culture, the development of the Assyrian empire, and its sudden collapse at the end of the seventh century. While the course will emphasize the use of textual sources, archaeological and iconographic data will also be used to help us arrive at an understanding of the great achievements of the ancient Assyrians. The classes will be part lecture and part seminar.

SM 244. (NELC544) Reading Ancient Mesopotamia. (C) Tinney.

An introduction to the literature of Ancient Mesopotamia. The literature of ancient Mesopotamia flourished thousands of years ago in a culture all of its own, yet the survival of hundreds of thousands of written records challenges us to read it and make sense of it without simply approximating it to the realm of our own understanding. How can we learn to do this? Situating our understanding of how we read and how we understand culture

within an interdisciplinary range of literary-critical and analytic approaches, we will approach this question by immersing ourselves in the myths tales and mentalities that made Mesopotamian literature meaningful. To give us a measure of our progress we will bracket the semester by reading Gilgamesh which is never less than a great story, but which will take on new layers of meaning as the semester develops and we learn to read the text in more and more Mesopotamian ways. As we journey through these mysterious realms we will reflect not only Mesopotamia and its immortal literature but on what it means to read and understand any cultures other than our own.

SM 250. (COML380, JWST255, NELC550, RELS224) The Bible in Translation. (C) Cranz. Spring 2015.

Spring 2015: The Book of Isaiah spans over two centuries and documents one of the most turbulent periods in the histories of Judah and Israel. In this course, we read Isaiah's prophecies in the context of their historical settings and in consideration of their theological implications. We will align the biblical texts to ancient artifacts and inscriptions that were created during the time of the prophet. A close reading of the text will allow us to appreciate Isaiah's message of peace and salvation. We can then ask: how is Isaiah's message relevant for us today?

SM 251. (JWST225, NELC651, RELS225) Dead Sea Scrolls. (M) Staff.

Exploration of the issues relating to the identification and history of the people who produced and used these materials as well as the claims made about the inhabitants of the Qumran site near the caves in which the scrolls were discovered, with a focus on what can be known about the community depicted by some of the scrolls, its institutions and religious life, in relation to the known Jewish groups at that time (the beginning of the Common Era). This will involve detailed description and analysis of the writings found in the caves -- sectarian writings, "apocrypha" and "pseudepigrapha," biblical texts and interpretations.

SM 252. (ANTH129, FOLK252, JWST100, NELC552, RELS129) THEMES JEWISH TRADITION: Iberian Conversos: Jew-Christian?. (C) History & Tradition Sector. All classes. Ben-Amos/ Dohrmann/Fishman.

Course topics will vary; they have included The Binding of Isaac, Responses to Catastrophes in Jewish History, Holy Men & Women (Ben-Amos); Rewriting the

Bible (Dohrmann); Performing Judaism (Fishman); Jewish Political Thought (Fishman); Jewish Esotericism (Lorberbaum) Democratic culture assumes the democracy of knowledge - the accessibility of of knowledge and its transparency. Should this always be the case? What of harmful knowledge? When are secrets necessary? In traditional Jewish thought, approaching the divine has often assumed an aura of danger. Theological knowledge was thought of as restricted. This seminar will explore the "open" and "closed" in theological knowledge, as presented in central texts of the rabbinic tradition: the Mishnah, Maimonides and the Kabbalah. Primary sources will be available in both Hebrew and English.

254. (COML259, FOLK296, JWST102) Jewish Humor. (M) Arts & Letters Sector. All Classes. Ben-Amos.

In modern American popular culture Jewish humor is considered by Jews and non-Jews as a recognizable and distinct form of humor. Focusing upon folk-humor, in this course we will examine the history of this perception, and study different manifestation of Jewish humor as a particular case study of ethnic in general. Specific topics for analysis will be: humor in the Hebrew Bible, Jewish humor in Europe and in America, JAP and JAM jokes, Jewish tricksters and pranksters, Jewish humor in the Holocaust and Jewish humor in Israel. The term paper will be collecting project of Jewish jokes.

258. (COML283, FOLK280, JWST260, RELS221) Jewish Folklore. (A) Ben-Amos.

The Jews are among the few nations and ethnic groups whose oral tradition occurs in literary and religious texts dating back more than two thousand years. This tradition changed and diversified over the years in terms of the migrations of Jews into different countries and the historical, social, and cultural changes that these countries underwent. The course attempts to capture the historical and ethnic diversity of Jewish Folklore in a variety of oral literary forms.

266. (NELC666) History of Ancient Egypt. (A) Wegner.

Review and discussion of the principal aspects of ancient Egyptian history, 3000-500 BC.

281. (ANTH100, ANTH654, NELC681, SAST161) Topics In Anthropology and the Modern World. (B) Spooner.

This course relates anthropological models and methods to current problems in the

Modern World. The overall objective is to show how the research findings and analytical concepts of anthropology may be used to illuminate and explain events as they have unfolded in the recent news and in the course of the semester. Each edition of the course will focus on a particular country or region that has been in the news.

283. (JWST123, RELS123) Introduction to Classical Judaism. (M) Dohrmann.

This course will be a broad introduction for those with little or no knowledge of Judaism. It will be a sampling of several key themes in the religion, as well as several ways to think about both Judaism in particular and religion in general (what after all does it mean to "introduce" a religion?). We will read from several key texts in Jewish history, from Bible to Talmud, mystical and philosophical texts, and beyond. Practices and key concepts (i.e., sacred texts, law, ritual, diaspora, assimilation, Israel, interpretation...) will be studied as dynamic and changing institutions, against the background of historical change.

285. (AAMW635, ARTH235, ARTH635, NELC685, VLST235) Jews Under Medieval Islam. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Goldstein.

This seminar will examine what Jews living in Muslim lands wrote during medieval times, focusing on a range of primary sources including poetry, Bible commentary, historiography and polemics. Through these sources we will develop an understanding of the place of this community in Jewish history as well as within the medieval empire of Islam.

SM 331. (AFST331, AFST531, NELC531) Iraq, Egypt, Algeria: Case Studies from the Arab World. (M) Sharkey. Prerequisite(s): A university-level survey class in Middle Eastern and North African history.

This reading- and discussion-intensive seminar will use historical and political analyses, ethnographic studies, novels, and films to consider and compare the experiences of Iraq, Egypt, and Algeria in the modern period. Themes to be covered include the nature of local Arab and Arabic cultures; the impact and legacies of Ottoman and Western imperialism; the development of Islamist, nationalist, and feminist movements; the status of non-Arab or non-Muslim minorities (notably the Iraqi Kurds, Egyptian Copts, and Algerian Berbers); and patterns of social and economic change. The class will culminate

in research projects that students individually design and pursue. This class is intended for juniors, seniors, and graduate students.

SM 332. (AFST332, AFST533, HIST370, NELC632) North Africa: History, Culture, Society. (M) Sharkey. Prerequisite(s): A university-level survey course in Middle Eastern, African, or Mediterranean history.

This interdisciplinary seminar aims to introduce students to the countries of North Africa, with a focus on the Maghreb and Libya (1830-present). It does so while examining the region's close economic and cultural connections to sub-Saharan Africa, Europe, and the Middle East. Readings will include histories, political analyses, anthropological studies, and novels, and will cover a wide range of topics such as colonial and postcolonial experiences, developments in Islamic thought and practice, and labor migration. This class is intended for juniors, seniors, and graduate students.

SM 334. (AFST373, HIST412) Africa and the Middle East. (C) Troutt Powell.

SM 335. (HIST479, JWST335, NELC535, RELS311) Muslim, Christian, and Jewish Relations in the Middle East and North Africa: Historical Perspectives. (C) Sharkey.

This class is a reading- and discussion-intensive seminar that addresses several recurring questions with regard to the Middle East and North Africa. How have Islam, Judaism, and Christianity influenced each other in these regions historically? How have Jews, Christians, and Muslims fared as religious minorities? To what extent have communal relations been characterized by harmony and cooperation, or by strife and discord, and how have these relations changed in different contexts over time? To what extent and under what circumstances have members of these communities converted, intermarried, formed business alliances, and adopted or developed similar customs? How has the emergence of the modern nation-state system affected communal relations as well as the legal or social status of religious minorities in particular countries? How important has religion been as one variable in social identity (along with sect, ethnicity, class, gender, etc.), and to what extent has religious identity figured into regional conflicts and wars? The focus of the class will be on the modern period (c. 1800-present) although we will read about some relevant trends in the early and middle Islamic periods as well. Students will also

pursue individually tailored research to produce final papers. Prior background in Islamic studies and

Middle Eastern history is required. This class is intended for juniors, seniors, and graduate students.

SM 336. (NELC536) Nationalism and Communal Identity in the Middle East. (A) Sharkey. Prerequisite(s): NELC 102 or other relevant introductory courses on the Middle East.

This seminar views the phenomenon of nationalism as it affected the modern Middle East in the nineteenth and twentieth centuries. Together we will consider the diverse components of nationalism, including religion, language, territorial loyalty, and ethnicity, and test the thesis that nations are "imagined communities" built on "invented traditions." At the same time, we will examine other forms of communal identity that transcend national borders or flourish on more localized scales. This class approaches nationalism and communal identity as complex products of cultural, political, and social forces, and places Middle Eastern experiences within a global context. Students must take a survey of modern Middle Eastern history or politics before enrolling in this class. This class is intended for juniors, seniors, and graduate students.

351. (NELC551) History and Civilization of Ancient Israel. (M) Staff.

This course is a study of ancient Israel from its pre-nation origins through the early Second Temple period. Topics include: methodological issues for the reconstruction of Israelite history; pre-Israelite Canaan - a bridge between empires; the patriarchal and Exodus traditions; Israelite settlement of Canaan; the rise of the monarchy; the Davidic dynasty; the states of Israel and Judah in the context of the greater ancient Near East; the fall of the Israelite states - the Assyrian and Babylonian exiles - and the return from exile in the Persian period. Special issues include: the development of monotheism; the role of the prophet in Israelite society; and the formation of Biblical corpus. Archaeological evidence from the land of Israel and other Near Eastern States, especially written material, will be utilized to supplement the Biblical sources.

SM 356. (COML556, JWST356, JWST555, NELC556, RELS418) Ancient Interpretation of the Bible. (M) Staff.

Christianity and Judaism are often called "Biblical religions" because they are believed to be founded upon the Bible. But the truth of the matter is that it was less the Bible itself than the particular ways in which the Bible was read and interpreted by Christians and Jews that shaped the development of these two religions and that also marked the difference between them. So, too, ancient Biblical interpretation -- Jewish and Christian-- laid the groundwork for and developed virtually all the techniques and methods that have dominated literary criticism and hermeneutics (the science of interpretation) since then.

The purpose of this course is to study some of the more important ways in which the Bible was read and interpreted by Jews and Christians before the modern period, and particularly in the first six centuries in the common era. We will make a concerted effort to view these interpretive approaches not only historically but also through the lens of contemporary critical and hermeneutical theory in order to examine their contemporary relevance to literary interpretation and the use that some modern literary theorists (e.g. Bloom, Kermode, Derrida, Todorov) have made of these ancient exegetes and their methods. All readings are in English translation, and will include selections from Philo of Alexandria, the Dead Sea Scrolls, Rabbinic midrash, the New Testament and early Church Fathers, Gnostic writings, Origen, and Augustine. No previous familiarity with Biblical scholarship is required although some familiarity with the Bible itself would be helpful.

SM 383. (COML205, JWST213, RELS203) The Religious Other. (M) Fishman.

Course explores attitudes toward monotheists of other faiths, and claims made about these "religious Others" in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Strategies of "othering" will be analyzed through an exploration of claims about the Other's body, habits and beliefs, as found in works of scripture, law, theology, polemics, art, literature and reportage. Attention will be paid to myths about the other, inter-group violence, converts, cases of cross-cultural influence, notions of toleration, and perceptions of Others in contemporary life. Primary sources will be provided in English.

SM 422. (URDU422) Intermediate Urdu Part II. Pien.

This continuing second-year course allows students to continue improving their Urdu proficiency while also gaining a broad foundational understanding of Urdu society and culture throughout South Asia. The course provides students the tools needed to handle a variety of authentic written and spoken Urdu sources including film, music, media reports, folk tales, and simple literature. Students will also continue to increase their speaking and writing proficiency to be able to discuss a broad range of concrete, real-world topics. The course is designed for students with one year of previous Urdu or Hindi study or the equivalent proficiency.

434. (COML353, COML505) Arabic Literature and Literary Theory. (C) Fakhreddine.

This course will explore different critical approaches to the interpretation and analysis of Arabic literature from pre-Islamic poetry to the modern novel and prose-poem. The course will draw on western and Arabic literary criticism to explore the role of critical theory not only in understanding and contextualizing literature but also in forming literary genres and attitudes. Among these approaches are: Meta-poetry and inter-Arts theory, Genre theory, Myth and Archetype, Poetics and Rhetoric, and Performance theory.

SM 437. Islamic Intellectual Tradition. (M) Lowry.

This comprehensive survey of the traditions of rational thought in classical Islamic culture is distinguished by its attempt to contextualize and localize the history of what is best described as philosophy in Islam, including not only the Islamic products of the Hellenistic mode of thought but also religious and linguistic sciences whose methodology is philosophical. Reading history as a set of local contingencies, the course examines the influence of these different disciplines upon each other, and the process of the Islamic "aspecting" of the Greek intellectual legacy. The readings thus include not only the works of Hellenized philosophers (falasifa) of Islam, but also those of theologians (mutakallimun), legists (fiqh scholars), and grammarians (nahw/lughah scholars). No prerequisites. Additional advanced-level assignments can be given for graduate credit.

450. (NELC150) Introduction to the Bible (The "Old Testament"). (A) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

An introduction to the major themes and ideas of the Hebrew Bible (the Old Testament), with attention to the contributions of archaeology and modern Biblical scholarship, including Biblical criticism and the response to it in Judaism and Christianity. All readings are in English.

451. (HIST139, JWST156, NELC051, RELS120) History of Jewish Civilization I--Jews and Judaism in Antiquity: From the Bible to the Talmud. (A) Dohrmann.

The course is an overview of Jewish history, culture, and society from its biblical settings through the Hellenistic-Roman, and rabbinic periods. We will trace the political, social, and intellectual-religious, and literary development of Judaism from its beginnings through the Second Temple period to the formation and evolution of Rabbinic Judaism. Topics to be covered include: the evolution of biblical thought and religious practice over time; Jewish writing and literary genres; varieties of Judaism; Judaism and Imperialism; the emergence of the rabbinic class and institutions.

452. (HIST140, JWST157, NELC052, RELS121) Medieval and Early Modern Jewry. (A) Ruderman.

Exploration of intellectual, social, and cultural developments in Jewish civilization from the dawn of rabbinic culture in the Near East through the assault on established conceptions of faith and religious authority in 17th century Europe. Particular attention will be paid to the impact of Christian and Muslim "host societies" on expressions of Jewish culture.

SM 454. (JWST320, JWST520, RELS321, RELS520) Spirit and Law. (M) Fishman.

While accepting "the yoke of the commandments", Jewish thinkers from antiquity onward have perennially sought to make the teachings of revelation more meaningful in their own lives. Additional impetus for this quest has come from overtly polemical challenges to the law, such as those leveled by Paul, medieval Aristotelians, Spinoza and Kant. This course explores both the critiques of Jewish Law, and Jewish reflections on the Law's meaning and purpose, by examining a range of primary sources within their intellectual and historical contexts. Texts (in English translation) include selections

from Midrash, Talmud, medieval Jewish philosophy and biblical exegesis, kabbalah, Hasidic homilies, Jewish responses to the Enlightenment, and contemporary attempts to re-value and invent Jewish rituals.

SM 456. (NELC156) Great Books of Judaism. (A) Arts & Letters Sector. All Classes. Staff.

The Babylonian Talmud (Bavli), a product reflecting the collaborative effort of generations of sages, is the foundational legal and ethical document of rabbinic Judaism. Both the methods of interpreting this text --and their theoretical frameworks-- have varied dramatically, evolving creatively throughout the generations. In the past century, theories of how to read the Talmud and hypotheses about its formation and redaction have opened up new avenues for understanding what the text says and, more importantly, how it works. Through in-depth examination of demonstrative legal passages, this course will contrast the insights generated by the major critical schools of the past century and with the interpretations of selected medieval scholars, the Rishonim. English translations will be provided alongside the original

SM 458. (COML257, JWST153, NELC158, RELS223) Jewish Literature in the Middle Ages in Translation. (C) Fishman.

Course explores the cultural history of Jews in the lands of Islam from the time of Mohammed through the late 17th century (end of Ottoman expansion into Europe) -- in Iraq, the Middle East, al-Andalus and the Ottoman Empire. Primary source documents (in English translation) illuminate minority-majority relations, internal Jewish tensions (e.g., Qaraism), and developments in scriptural exegesis, rabbinic law, philosophy, poetry, polemics, mysticism and liturgy. Graduate students have additional readings and meetings. Spring 2015

463. (NELC061) Literary Legacy of Ancient Egypt. (M) Silverman.

This course surveys the literature of Ancient Egypt from the Old Kingdom through the Graeco-Roman period, focusing upon theme, structure, and style, as well as historical and social context. A wide range of literary genres are treated, including epics; tales, such as the "world's oldest fairy tale;" poetry, including love poems, songs, and hymns; religious texts, including the "Cannibal Hymn"; magical spells; biographies; didactic literature; drama; royal and other monumental inscriptions; and letters, including personal

letters, model letters, and letters to the dead. Issues such as literacy, oral tradition, and the question poetry vs. prose are also discussed. No prior knowledge of Egyptian is required.

465. Egyptian Artifacts. (C) Wegner.

Detailed typological and chronological discussion of principal kinds of ancient Egyptian artifacts.

SM 466. Archaeology and History of the Middle Kingdom. (M) Wegner.

467. (AFST467) History of Egypt - New Kingdom. (M) Wegner.

Covers principal aspects of ancient Egyptian culture (environment, urbanism, religion, technology, etc.) with special focus on archaeological data; includes study of University Museum artifacts. Follows AMES 266/466 - History of Egypt taught in the Fall semester.

468. (NELC166, RELS114) The Religion of Ancient Egypt. (M) Silverman/Wegner.

Weekly lectures (some of which will be illustrated) and a field trip to the University Museum's Egyptian Section. The multifaceted approach to the subject matter covers such topics as funerary literature and religion, cults, magic

469. The Archaeology of Nubia. (M) Wegner.

The course will examine the archaeology of Ancient Nubia from Pre-history through the Bronze and Iron Ages, ca. 5000 BCE to 300 AD. The course will focus on the various Nubian cultures of the Middle Nile, and social and cultural development, along with a detailed examination of the major archaeological sites and central issues of Nubian archaeology.

489. (AAMW435, ARTH435, COML415) Medieval Islamic Art and Architecture. (M) Holod.

An introduction to the major architectural monuments and trends, as well as to the best-known objects of the medieval (seventh-to fourteenth-century) Islamic world. Attention is paid to such themes as the continuity of late antique themes, architecture as symbol of community and power, the importance of textiles and primacy of writing. Suitable for students of literature, history, anthropology as well as art history.

515. (NELC115, RELS544) Persian Mystical Thought: Rumi. (M) Staff.

The Islamic Republic of Iran sought to create for its citizens a new Islamic

subjectivity, and today's young people, all born after the Revolution of 1978-79, were the targets of that process. By probing the political, cultural, and artistic interests that the young people in Iran have engaged since the Revolution, we might evaluate the effectiveness of that project. To what extent has the Iranian youth conformed to or resisted the kind of citizenship that its government determined for it? Do we sense ambivalence or apathy towards that subjectivity? This course will provide students with the materials necessary to construct an ethnographic portrait of contemporary Iranian youth. Examining a wide range of sources, including films, documentaries, blogs, graffiti, photography, memoirs, music videos, and novels, we will specifically attempt to locate and explore the various languages - visual, musical, written, and spoken - that have emerged alongside these youth cultures.

SM 531. (AFST331, AFST531, NELC331) Iraq, Egypt, Algeria: Case Studies from the Arab World. (M) Sharkey.

This reading- and discussion-intensive seminar will use historical and political analyses, ethnographic studies, novels, and films to consider and compare the experiences of Iraq, Egypt, and Algeria in the modern period. Themes to be covered include the nature of local Arab and Arabic cultures; the impact and legacies of Ottoman and Western imperialism; the development of Islamist, nationalist, and feminist movements; the status of non-Arab or non-Muslim minorities (notably the Iraqi Kurds, Egyptian Copts, and Algerian Berbers); and patterns of social and economic change. The class will culminate in research projects that students individually design and pursue. This class is intended for juniors, seniors, and graduate students. required.

SM 534. (RELS545, SAST549) Topics in Islamic Religion. (M) Staff.

Selected topics, such as Sufi texts or The Qur'an, in the study of Islamic religion.

SM 535. (NELC335, RELS311) Muslim, Christian, and Jewish Relations in the Middle East and North Africa: Historical Perspectives. (M) Sharkey.

This class is a reading- and discussion-intensive seminar that addresses several recurring questions with regard to the Middle East and North Africa. How have Islam, Judaism, and Christianity influenced each other in these regions historically? How have Jews, Christians, and Muslims fared as religious minorities? To what

extent have communal relations been characterized by harmony and cooperation, or by strife and discord, and how have these relations changed in different contexts over time? To what extent and under what circumstances have members of these communities converted, intermarried, formed business alliances, and adopted or developed similar customs? How has the emergence of the modern nation-state system affected communal relations as well as the legal or social status of religious minorities in particular countries? How important has religion been as one variable in social identity (along with sect, ethnicity, class, gender, etc.), and to what extent has religious identity figured into regional conflicts and wars? The focus of the class will be on the modern period (c. 1800-present) although we will read about some relevant trends in the early and middle Islamic periods as well. Students will also pursue individually tailored research to produce final papers. Prior background in Islamic studies useful.

SM 536. (NELC336) Nationalism and Communal Identity in the Middle East. (A) Sharkey. Prerequisite(s): NELC 102 or other relevant introductory courses on the Middle East.

This seminar views the phenomenon of nationalism as it affected the modern Middle East in the nineteenth and twentieth centuries. Together we will consider the diverse components of nationalism, including religion, language, territorial loyalty, and ethnicity, and test the thesis that nations are "imagined communities" built on "invented traditions." At the same time, we will examine other forms of communal identity that transcend national borders or flourish on more localized scales. This class approaches nationalism and communal identity as complex products of cultural, political, and social forces, and places Middle Eastern experiences within a global context.

537. Introduction to Islamic Intellectual History: Hellenism, Arabism, and Islamism. (C) Staff. Does not require a knowledge of Arabic.

A comprehensive survey of the traditions of rational thought in classical Islamic culture. The course is distinguished by its attempt to contextualize and localize the history of what is best described as philosophy in Islam, including not only the Islamic products of the Hellenistic mode of thought but also religious and linguistic sciences whose methodology is philosophical. Reading history as a set of local contingencies, the course examines the influence of these different disciplines upon

each other, and the process of the Islamic "aspecting" of the Greek intellectual legacy. The readings thus include not only the works of Hellenized philosophers (falasifa) of Islam, but also those of theologians (mutakallimun), legists (fiqh-writers), and grammarians (nahw/lughawriters). No prerequisites. Additional advanced-level assignments can be given for graduate credit.

542. (AAMW543, ANCH542, NELC242) Early Empires of the Ancient Near East: The Neo-Assyrian Empire. (M) Frame. Prerequisite(s): NELC 101 or permission of the instructor.

The Assyrians appear as destructive and impious enemies of the Israelites and Judeans in various books of the Bible and this view is reflected in Lord Byron's poem: "The Assyrian came down like the wolf on the fold, / And his cohorts were gleaming in purple and gold" (Hebrew Melodies. The Destruction of Sennacherib). In the ninth, eighth and seventh centuries BCE, Assyrian armies marched out from their homeland in northern Iraq to Iran in the East, Egypt in the West, the Persian Gulf in the south and central Turkey in the north, and they created the largest empire known up until that time. They built impressive palaces and cities, created great works of art and have left us a vast number of documents preserving ancient literature and scholarly knowledge. In the course we will look at the structure of the Assyrian state, Assyrian culture, the development of the Assyrian empire, and its sudden collapse at the end of the seventh century. While the course will emphasize the use of textual sources, archaeological and iconographic data will also be used to help us arrive at an understanding of the great achievements of the ancient Assyrians. The classes will be part lecture and part seminar.

SM 544. (NELC244) Reading Ancient Mesopotamia. (C) Tinney.

An introduction to the literature of Ancient Mesopotamia.

SM 550. (COML380, JWST255, NELC250, RELS224) The Bible in Translation. (C) Staff. May be repeated for credit.

Careful study of a book of the Hebrew Bible (the Old Testament) as a literary and religious work in the light of modern scholarship, ancient Near Eastern documents, comparative literature and religion, and its reverberations in later Judaism, Christianity, and Western (particularly American) Civilization.

551. (NELC351) History and Civilization of Ancient Israel. (M) Staff.

This course is a study of ancient Israel from its pre-nation origins through the early Second Temple period. Topics include: methodological issues for the reconstruction of Israelite history; pre-Israelite Canaan - a bridge between empires; the patriarchal and Exodus traditions; Israelite settlement of Canaan; the rise of the monarchy; the Davidic dynasty; the states of Israel and Judah in the context of the greater ancient Near East; the fall of the Israelite states - the Assyrian and Babylonian exiles - and the return from exile in the Persian period. Special issues include: the development of monotheism; the role of the prophet in Israelite society; and the formation of Biblical corpus. Archaeological evidence from the land of Israel and other Near Eastern States, especially written material, will be utilized to supplement the Biblical sources.

SM 552. (NELC252, RELS129, RELS523) THEMES JEWISH TRADITION: JEWISH ESOTERICISM. (C) Ben-Amos/Dohrmann/Fishman.

Course topics will vary; they have included The Binding of Isaac, Responses to Catastrophes in Jewish History, Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann); Performing Judaism (Fishman); Jewish Political Thought (Fishman); Jewish Esotericism (Lorberbaum) Democratic culture assumes the democracy of knowledge - the accessibility of knowledge and its transparency. Should this always be the case? What of harmful knowledge? When are secrets necessary? In traditional Jewish thought, approaching the divine has often assumed an aura of danger. Theological knowledge was thought of as restricted. This seminar will explore the "open" and "closed" in theological knowledge, as presented in central texts of the rabbinic tradition: the Mishnah, Maimonides and the Kabbalah. Primary sources will be available in both Hebrew and English.

When did the Bible become the Bible? What was the nature of canon and authority in early Israel and Judaism, and how did biblical communities think about their sacred texts? How and what did the Bible mean to ancient readers? The answers to these questions are varied and surprising. This course looks at early biblical and Jewish texts that both write and re-write the tradition's own central texts. We will think widely and creatively about ancient textuality, orality, interpretation, composition, and authority. Drawing on literary theory, the course will examine the

ways that biblical and post-biblical literature from the Second Temple to the rabbinic period (with some forays into contemporary literature) manifest complex ideas about power, meaning, and religiosity in early Judaism.

555. (NELC255) Archaeology and Society of the Holy Land. (M) Staff.

This course will survey the archaeological history of the southern Levant (Israel, West Bank and Gaza, Jordan, southern Lebanon and Syria) from the early complex societies of the Chalcolithic through the demise of the biblical states of the Iron Age. It will focus in particular on the changing organization of society through time, using excavated evidence from burials, houses, temples and palaces to track changes in social heterogeneity, hierarchy and identity. In following the general themes of this course, students will have opportunity to familiarize themselves with the geographic features, major sites and important historical events of the southern Levant. Class material will be presented in illustrated and supplemented by the study

SM 556. (NELC356) Ancient Interpretation of the Bible. (M) Staff. May be repeated for credit.

Christianity and Judaism are often called "Biblical religions" because they are believed to be founded upon the Bible. But the truth of the matter is that it was less the Bible itself than the particular ways in which the Bible was read and interpreted by Christians and Jews that shaped the development of these two religions and that also marked the difference between them. So, too, ancient Biblical interpretation -- Jewish and Christian-- laid the groundwork for and developed virtually all the techniques and methods that have dominated literary criticism and hermeneutics (the science of interpretation) since then.

The purpose of this course is to study some of the more important ways in which the Bible was read and interpreted by Jews and Christians before the modern period, and particularly in the first six centuries in the common era. We will make a concerted effort to view these interpretive approaches not only historically but also through the lens of contemporary critical and hermeneutical theory in order to examine their contemporary relevance to literary interpretation and the use that some modern literary theorists (e.g. Bloom, Kermode, Derrida, Todorov) have made of these ancient exegetes and their methods. All readings are in English translation, and will include selections from Philo of Alexandria, the Dead Sea Scrolls, Rabbinic

midrash, the New Testament and early Church Fathers, Gnostic writings, Origen, and Augustine. No previous familiarity with Biblical scholarship is required although some familiarity with the Bible itself would be helpful.

SM 557. (HEBR557, JWST553, RELS557) Seminar in Rabbinic Literature. (B) Staff. Prerequisite(s): Proficiency in Hebrew and/or Greek recommended. Undergraduates need permission to enroll. May be repeated for credit.

Most of the foundational writings of rabbinic Judaism corpora of midrash, Mishna, and the two Talmuds were in existence by the end of the sixth century CE. Yet, for several centuries thereafter, there is little evidence attesting to the lived nature of rabbinic culture and society. Course will focus on writings by Jews and about Jews, produced between the 7th and 10th centuries, complemented by secondary sources. Texts will include selections from archaeological inscriptions; midrash; liturgical poetry; Targum; Masora; geonic responsa, writings by Muslims and by Church Fathers. While students must be able to read Hebrew, much class time will be devoted to the improvement of reading and comprehension skills. Undergraduates should seek permission of the instructor.

SM 567. Seminar on Egyptian Archaeology and History. (M) Wegner. Specific topics will vary from year to year.

568. (NELC168) Women in Ancient Egypt. (B)

This class will examine the many roles played by women in ancient Egypt. From goddesses and queens, to wives and mothers, women were a visible presence in ancient Egypt. We will study the lives of famous ancient Egyptian women such as Hatshepsut, Nefertiti and Cleopatra. More independent than many of their contemporaries in neighboring areas, Egyptian women enjoyed greater freedoms in matters of economy and law. By examining the evidence left to us in the literature (including literary texts and non-literary texts such as legal documents, administrative texts and letters), the art, and the archaeological record, we will come away with a better understanding of the position of women in this ancient culture.

SM 569. Problems in Ancient Egyptian History. (M) Wegner.

In depth analysis of specific historical issues and topics. Reading knowledge in French and German is required.

614. (NELC114) Introduction to Persian Literature. Staff.

This course, which requires no knowledge of Persian, aims to introduce students to the major trends and developments in the Persian literary tradition, which has spanned for more than a millennium. Introductory sessions will familiarize students with the history of Persian literature, especially the transition away from classical modes of representation, a tradition that was largely poetic, to modern genres and forms, including the novel, blank-verse poetry, and short stories. However, most of the course will be organized thematically rather than chronologically, and each unit will bring together literary texts from both the classical and modern traditions. Together we will examine how authors from different historical periods have utilized a limited number of motifs in order to represent and critique the dominant religious and social institutions of their time. We will conclude by considering the rapid politicalization of Persian literature in the 20th century and recent efforts to control systems of representation, and especially the written word, in the Islamic Republic of Iran.

SM 617. (AAMW537, ARTH537) Art of Iran. (M) Holod.

Iranian art and architecture of the Parthian, Sassanian and Islamic periods, with particular emphasis on regional characteristics in the period. Different themes are explored each time the course is offered. In the past, these have been Ilkhanid and Timurid painting, the city of Isfahan, metropolitan and provincial architecture in the fourteenth century.

618. (NELC118) Iranian Cinema: Gender, Politics and Religion. (C) Staff.

This seminar explores Iranian culture, art, history and politics through film in the contemporary era. We will examine a variety of works that represent the social, political, economic and cultural circumstances of post-revolutionary Iran. Along the way, we will discuss issues pertaining to gender, religion, nationalism, ethnicity, and the function of cinema in present day Iranian society. Films to be discussed will be by internationally acclaimed filmmakers, such as Abbas Kiarostami, Mohsen Makhmalbaf, Rakhshan Bani-Etemad, Tahmineh Milani, Jafar Panahi, Bahman Ghobadi, among others.

SM 632. (AFST332, AFST533, NELC332) North Africa: History, Culture, Society. (M) Sharkey.

Prerequisite(s): A university-level survey course in Middle Eastern, African, or Mediterranean history.

This interdisciplinary seminar aims to introduce students to the countries of North Africa, with a focus on the Maghreb and Libya (1830-present). It does so while examining the region's close economic and cultural connections to sub-Saharan Africa, Europe, and the Middle East. Readings will include histories, political analyses, anthropological studies, and novels, and will cover a wide range of topics such as colonial and postcolonial experiences, developments in Islamic thought and practice, and labor migration. This class is intended for juniors, seniors, and graduate students.

SM 633. Seminar in Selected Topics in Arabic Literature. (B) Allen.

This is the graduate seminar course in which a variety of aspects of Arabic literature studies are covered at the advanced graduate level. Students in this course are expected to be able to read large amounts of literature in Arabic on a weekly basis and to be able to discuss them critically during the class itself. Topics are chosen to reflect student interest. Recent topics have included: 1001 NIGHTS; the short story; the novel; MAQAMAT; classical ADAB prose; the drama; the novella; modern Arabic poetry.

SM 638. (LAW 737, RELS648) Approaches to Islamic Law. (M)

Lowry. Prerequisite(s): Some background knowledge about Islam is an asset.

This course aims to introduce students to the study of Islamic law, the all-embracing sacred law of Islam. In this course we will attempt to consider many different facets of the historical, doctrinal, institutional and social complexity of Islamic law. In addition, the various approaches that have been taken to the study of these aspects of Islamic law will be analyzed. The focus will be mostly, though not exclusively, on classical Islamic law. Specific topics covered include the beginnings of legal thought in Islam, various areas of Islamic positive law (substantive law), public and private legal institutions, Islamic legal theory, and issues in the contemporary development and application of Islamic law.

641. (ANTH236, NELC241) Iraq: Ancient Cities and Empires. (M) Zettler.

This course consists of an analytical survey of civilization in the ancient Mesopotamia from prehistoric periods to the middle centuries of the first millennium B.C. A strong focus is placed on Mesopotamia (Iraq, eastern Syria) proper, but it occasionally covers its adjacent regions, including Anatolia (Turkey), north-central Syria, and the Levantine coast. As we chronologically examine the origin and development of civilization in the region, various social, political, economic, and ideological topics will be explored, including subsistence, cosmology, writing, trade, technology, war, private life, burial custom, and empire. Based on both archaeological and historical evidence, these topics will be examined from archaeological, anthropological, historical and art historical perspectives. Students will be exposed to a variety of theoretical approaches and types of relevant evidence, including settlement survey data, excavated architectural remains and artifacts, and written documents. The course aims to provide students with a strong foundation for further study in Near Eastern civilization.

SM 651. (JWST225, NELC251, RELS225) Dead Sea Scrolls. (M) Staff.

Exploration of the issues relating to the identification and history of the people who produced and used these materials as well as the claims made about the inhabitants of the Qumran site near the caves in which the scrolls were discovered, with a focus on what can be known about the community depicted by some of the scrolls, its institutions and religious life, in relation to the known Jewish groups at that time (the beginning of the Common Era). This will involve detailed description and analysis of the writings found in the caves -- sectarian writings, "apocrypha" and "pseudepigrapha," biblical texts and interpretations.

664. (NELC064) The World of Cleopatra. (M) Houser Wegner.

The figure of Cleopatra is familiar from modern stories, legends, and film. Was this famous woman a brazen seductress or a brilliant political mind? How many of these presentations are historically accurate? This class will examine the Ptolemaic period in Egypt (305-30 BCE), the time period during which Cleopatra lived, in an attempt to separate myth from reality. The Ptolemaic period is filled with political and personal intrigue. It was also a time of dynamic multiculturalism.

Arguably one of the most violent and fascinating eras in ancient Egyptian history, the Ptolemaic period is largely unknown and often misunderstood. This course will examine the history, art, religion and literature of Egypt's Ptolemaic period which culminated in the reign of Cleopatra VII.

666. (NELC266) History of Ancient Egypt. (A) Wegner.

Review and discussion of the principal aspects of ancient Egyptian history, 3000-500 BC.

668. (NELC068) Art and Architecture in Ancient Egypt. (M) Silverman.

This course will be an introduction to the art, architecture and minor arts that were produced during the three thousand years of ancient Egyptian history. This material will be presented in its cultural and historical contexts through illustrated lectures and will include visits to the collection of the University Museum.

681. (ANTH100, ANTH654, NELC281, SAST161) Topics In Anthropology and the Modern World. (B) Spooner.

This course relates anthropological models and methods to current problems in the Modern World. The overall objective is to show how the research findings and analytical concepts of anthropology may be used to illuminate and explain events as they have unfolded in the recent news and in the course of the semester. Each edition of the course will focus on a particular country or region that has been in the news.

682. (COML529, FOLK532) Proverb, Riddle & Speech Metaphor. (M) Ben-Amos.

Through readings and collaborative projects this working seminar will explore the place of metaphor in the genres of proverb and riddle and examine their position in oral communication in traditional and modern societies. Critical readings of former definitions and models of riddles and metaphors will enable students to obtain a comprehensive perspective of these genres that will synthesize functional, structural, metaphoric, and rhetoric theories.

683. (COML662, FOLK629, RELS605) Theories of Myth. (M) Ben-Amos.

Theories of myth are the center of modern and post-modern, structural and post-structural thought. Myth has served as a vehicle and a metaphor for the formulation of a broad range of modern theories. In this course we will examine the theoretical foundations of these approaches to myth

focusing on early thinkers such as Vico, and concluding with modern twentieth century scholars in several disciplines that make myth the central idea of their studies.

SM 686. (HIST640) Topics in Mid East History.

Reading and discussion course on selected topics in Middle Eastern history.

ANCIENT NEAR EASTERN LANGUAGE COURSES (ANEL)

440. (ANEL640) First Year Akkadian I. (A) Staff.

Introduction to the grammar of the Akkadian language with emphasis on developing skills in the cuneiform writing system and reading of selected texts.

441. (ANEL641) 1st Year Akkadian II. (B) Staff. Prerequisite(s): ANEL 440, ANEL 640 or permission of the instructor.

Introduction to the grammar of the Akkadian language with emphasis on developing skills in the cuneiform writing system and reading of selected texts.

460. (AFST460) Middle Egyptian. (E) Silverman.

Introduction to the grammar of Middle Egyptian.

461. Middle Egyptian Texts: Literary. (C) Silverman. Prerequisite(s): ANEL 460.

This course will deal with those texts of the Middle Kingdom that are written in the classical form of the language. It will include both monumental inscriptions, such as autobiographical stela inscriptions (P. Newberry, BENI HASSAN) and stela (Seth, LESESTUCKE) as well as narratives in prose (DeBuck, READING BOOK). Religious texts (ibid. and COFFIN TEXTS) will also be studied and analyzed. Distinctions between the grammar of the literary and non-literary genres will be discussed.

462. (AFST462) Middle Egyptian Texts: Non-Literary. (C) Silverman. Prerequisite(s): ANEL 460.

The course will emphasize non-literary texts dating to Middle Kingdom: letters, reports, medical and mathematical papyri, and dialogues in tombs. The material will in large part be in the hieratic script, except for the tomb inscriptions.

540. Akkadian Literary Texts. (C) Frame. Prerequisite(s): ANEL 441/641.

Readings in Akkadian literary texts from ancient Mesopotamia.

541. Akkadian Historical Texts. (C) Frame. Prerequisite(s): ANEL 441/641.

Readings in Akkadian historical texts from ancient Mesopotamia

542. Akkadian Letters. (C) Frame. Prerequisite(s): ANEL 441/641.

Readings in Akkadian letters from ancient Mesopotamia.

546. Intermediate Sumerian. (E) Tinney.

560. Late Egyptian. (C) Staff. Prerequisite(s): ANEL 460.

Introduction to the grammar of Late Egyptian.

561. Late Egyptian Texts: Literary. (C) Silverman. Prerequisite(s): ANEL 560.

This course will concentrate on the literary texts of the New Kingdom: Late Egyptian narratives such as THE DOOMED PRINCE, THE TWO BROTHERS, and HOURS AND SETH (Gardiner, LATE EGYPTIAN STORIES) and poetry; (Gardiner, CHESTER BEATTY I and Muller, LIEBESPOESIE). The grammar will be analyzed (Erman, NEUAGYPTISCHE GRAMMATIK and Korostovtzev, GRAMMARIE DU NEO-EGYPTIEN) and compared to that used in non-literary texts (Groll, THE NEGATIVE VERBAL SYSTEM OF LATE EGYPTIAN, NON-VERBAL SENTENCE PATTERNS IN LATER EGYPTIAN, and THE LITERARY AND NON-LITERARY VERBAL SYSTEMS IN LATE EGYPTIAN).

562. Late Egyptian Texts: Non-Literary. (C) Silverman. Prerequisite(s): ANEL 560.

This course will concentrate on the translation and grammatical analysis of non-literary texts.

563. (AFST563) Old Egyptian. (C) Silverman. Prerequisite(s): ANEL 460; knowledge of German.

This course is an introduction to the language of the Egyptian Old Kingdom. The grammar of the period will be introduced during the early part of the semester, using Edehl's ALTAGYPTISCHE GRAMMATIK as the basic reference. Other grammatical studies to be utilized will include works by Allen, Baer, Polotsky, Satzinger, Gilula, Doret, and Silverman. The majority of time in the course will be devoted to reading varied textual material: the unpublished inscriptions in the tomb of the Old Kingdom official Kapure--on view in the collection of the University Museum;

several autobiographical inscriptions as recorded by Sethe in URKUNDEN I; and a letter in hieratic (Baer, ZAS 93, 1966, 1-9).

564. Ancient Egyptian Biographical Inscription. (M) Silverman.

571. History of the Linguistics of the Near East. (M) Staff.

572. (JWST558) Northwest Semitic Epigraphy. (D) Staff. Prerequisite(s): Ability to read an unpointed Hebrew text and facility in the Hebrew Bible.

This is a seminar in which we read inscriptions in the Canaanite dialects other than Hebrew (Phoenician, Moabite, Ammonite, Edomite) as well as Aramaic and Philistine texts, which were written in the 10th-6th centuries BCE, and discovered in the last 140 years by archeologists. The course is a continuation of HEBR555, but can be taken independently.

573. Ugaritic I. (A) Staff.

An introduction to the grammar of the Ugaritic language with emphasis on developing skills in reading Ugaritic texts.

574. Ugaritic II. (B) Staff. Prerequisite(s): ANEL 573 or permission of the instructor.

An introduction to the grammar of the Ugaritic language with emphasis on developing skills in reading Ugaritic texts.

575. (JWST457) Aramaic: Approaches to Talmud: Traditional and Academic. (A) Staff. Prerequisite(s):

Prior experience studying the Babylonian Talmud in the original.

Course will examine several key legal passages (sugyot) in the Babylonian Talmud from both a traditional and an academic perspective. After identifying important tensions and inconsistencies in each text, we will consider the disparate solutions posed by the early medieval rabbis (Rishonim) and contemporary scholars, and compare their respective approaches. Through these in-depth readings we will highlight how modern assumptions and goals for Talmud study differ from earlier generations and how contemporary approaches allow us to uncover new structures and meanings in the text. Attention will be paid to the comprehension of Aramaic lexical and grammatical forms. Open to students with prior experience studying the Babylonian Talmud in the original.

577. Syriac I. (A) Staff.

An introduction to the grammar of Syriac with emphasis on developing skills in reading Syriac texts.

578. Syriac II. (B) Staff. Prerequisite(s): ANEL 577 or permission of the instructor. An introduction to the grammar of Syriac with emphasis on developing skills in reading texts.

640. (ANEL440) First Year Akkadian I. (A) Staff.

Introduction to the grammar of the Akkadian language with emphasis on developing skills in the cuneiform writing system and reading of selected texts.

641. (ANEL441) 1st Year Akkadian II. (M) Staff. Prerequisite(s): ANEL 440, ANEL 640 or permission of the instructor.

Introduction to the grammar of the Akkadian language with emphasis on developing skills in the cuneiform writing system and reading of selected texts.

SM 644. Readings Akkadian Texts I. (M) Frame.

Readings in Akkadian texts on selected topics.

SM 645. Readings Akkadian Texts II. (M) Frame.

Readings in Akkadian texts on selected topics.

646. The Land of Sumer: Writing, Language, and Culture. (M) Tinney.

This self-contained course sets the Sumerian language, writing system and use of writing in their social and historical context. The aim is to provide students of ancient history and culture from diverse disciplines with a good grounding in Sumerian culture, familiarity with the Sumerian language and cuneiform writing system and the requisite knowledge for critical assessment of published translations and of the secondary literature. The course is organized as two threads, culture on the one hand and language on the other. The two threads are united by taking examples in the language exercises, vocabulary assignments, etc., as far as possible from the domain of the week' cultural topics. The net effect is to examine the culture both through contemporary secondary literature and through direct contact with elementary primary texts of relevance to the various topics of discussion. The language component of the course will be carried out in a combination of transliteration and cuneiform, with an expectation that all students will gain familiarity with at least the core 80 syllabic signs, and about 100 additional logographic signs.

660. Old Egyptian Texts: Religious. (C) Silverman. Prerequisite(s): ANEL 563.

This course will examine the texts and grammar of religious and wisdom literature. The religious texts utilized will come from the spells of the Pyramid Texts (K. Sethe, DIE ALTAGYPTISCHEN PYRAMIDENTEXTS), and the offering formulae carved on stelae and tomb walls. Sources for the latter will include published and unpublished material from Dendera, Giza, and other sites in the collections of the University Museum (H. Fischer, DENDERA IN THE THIRD MILLENNIUM, B.C., C. Fisher, THE MINOR CEMETERIES AT GIZA and W. Barta, AUFBAU UND BEDEUTUNG DER ALTAGYPTISCHEN OPFERFORMEL). For the wisdom literature, the texts of Kagemni (Jequier, LE PYPYRUS PRISSE ET SES VARIANTES) and Prince Hordjedef (Brunner-Traut, ZAS 76 (1940), 3-9 will be read.

661. Old Egyptian Texts: Secular. (C) Silverman. Prerequisite(s): ANEL 563.

This course will concentrate on non-religious themes written in Old Egyptia The texts utilized will include those written in the hieratic as well as hieroglyphic script; comparisons to and distinctions between the grammar us in these texts and those in the religious material will be made. The autobiographical inscriptions in tombs from Giza, Elephantine and Saqqara, (Sethe, URKUNDEN I) will be studied in addition to contemporaneous letters (Gunn, ASAE 25, (1925) 242-55, Gardiner and Sethe, LETTERS to the DEAD, and P. Posener-Krieger, HIERATIC PAPYRI in the BRITISH MUSEUM) and economic documents (ibid. and LES ARCHIVS du TEMPLE FUNERAIRE de NEFERIRKARE-KAKAI).

664. (RELS616) Coptic. (M) Silverman.

The course will be an introduction to the writing, grammar, and literature of Coptic.

665. Demotic. (M) Houser Wegner.

The course will be an introduction to the writing, grammar, and literature of Demotic, the phase of the language in use during the latter periods of Egyptian history.

667. Readings in Demotic. (M)

740. Akkadian Religious and Scientific Texts. (C) Frame.

Prerequisite(s): ANEL 441/641.

Readings in Akkadian of religious and scientific texts from ancient Mesopotamia.

741. Akkadian Legal Texts. (C) Frame. Prerequisite(s): ANEL 441/641.

Readings in Akkadian legal texts and law corpora from ancient Mesopotamia.

SM 742. Akkadian Economic Texts. (M) Frame. Prerequisite(s): ANEL 441/641.

Readings in Akkadian economic texts from ancient Mesopotamia.

743. Peripheral Akkadian. (C) Staff. Prerequisite(s): ANEL 441/641.

Readings in selected texts in Akkadian from the periphery of Mesopotamia, including Alalah, Ugarit, Nuzi, Suza and El-Amarna.

SM 744. Readings Akkadian Texts III. (M) Frame.

Readings in Akkadian texts on selected topics.

SM 745. Readings Akkadian Texts IV. (M) Frame.

Readings in Akkadian texts on selected topics.

746. Readings in Sumerian Texts. (C) Tinney. Prerequisite(s): ANEL 246/646.

Selected readings in Sumerian texts.

SM 749. Seminar in Cuneiform Texts. (C) Staff. Prerequisite(s): ANEL 441.

Extensive readings in selected cuneiform texts.

Amharic Language Courses (NELC)

481. (AFRC240, AFRC540, AFST240, AFST540) Elementary Amharic I. (A) Hailu. Offered through the Penn Language Center.

The Elementary Amharic I course can be taken to fulfill a language requirement, or for linguistic preparation to do research on Ethiopia/Africa-related topics. The course emphasizes communicative competence to enable the students to acquire linguistic and extra-linguistic skills in Amharic. The content of the course is selected from various everyday life situations to enable the students to communicate in predictable common daily settings. Culture, as it relates to language use, is also part of the course content.

482. (AFRC241, AFRC541, AFST241, AFST541) Elementary Amharic II. (B)

Staff. Prerequisite(s): Completion of NELC 481. Offered through the Penn Language Center.

Continuation of Elementary Amharic I.

483. (AFRC242, AFRC543, AFST242, AFST543) Intermediate Amharic I. (A) Hailu. Prerequisite(s): Completion of NELC 482 or permission of the instructor. Offered through the Penn Language Center.

484. (AFRC243, AFRC544, AFST243, AFST544) Intermediate Amharic II. (B) Hailu. Offered through the Penn Language Center.

583. (AFST247, AFST547) Advanced Amharic. (M) Staff. Prerequisite(s): Completion of NELC 484 or permission of the instructor.

An advanced Amharic course that will further sharpen the students' knowledge of the Amharic language and the culture of the Amharas. The learners communicative skills will be further developed through listening, speaking, reading and writing. There will also be discussions on cultural and political issues.

ARABIC LANGUAGE COURSES (ARAB)

031. (ARAB631) Elementary Arabic I. (A) Staff.

This is the beginners course in Modern Standard Arabic (MSA). It will introduce you to the speaking, listening, reading and writing skills in the standard means of communication in the Arab World. The course is proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 031) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in other words (using the terminology of the government's Foreign Service Institute), from 'incipient survival' to 'full' survival' in the native-speaking environment.

032. (ARAB632) Elementary Arabic II. (B) Staff. Prerequisite(s): ARAB 031.

This course is a continuation of ARAB 031/631.

033. (ARAB633) Intermediate Arabic III. (A) Staff. Prerequisite(s): ARAB 032 or equivalent.

This is the continuation of the Elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment

from the very beginning. This is the continuation of ARAB031 and ARAB 032, the elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. As in ARAB 031-032, evaluation is done by the more traditional testing methods (vocabulary tests, grammar and translation exercises). We anticipate that students range from Intermediate Low to Intermediate High according to the ACTFL scale.

034. (ARAB634) Intermediate Arabic IV. (B) Staff. Prerequisite(s): ARAB 033.

This course is a continuation of ARAB 033/633.

035. (ARAB635) Advanced Intermediate Arabic I. (A) Staff. Prerequisite(s): ARAB 034.

This is a proficiency-based course which continues from the first intermediate course, ARAB 033/034. Emphasis continues to be on all four language skills: Speaking, Listening, Reading, & Writing. The readings for the class are chosen from actual texts from both medieval and modern Arabic in a variety of fields and subjects. Students will be expected to give classroom presentations and to write short essays in Arabic. Evaluation will be both Achievement- and proficiency- based.

036. (ARAB636) Advanced Intermediate Arabic II. (B) Staff. Prerequisite(s): ARAB 035.

This course is a continuation of ARAB 035/635.

037. (ARAB637) Advanced Arabic and Syntax I. (A) Staff. Prerequisite(s): ARAB 036/636 or permission of the instructor.

Advanced syntax through the reading of Arab grammarians. Development of reading in bulk. Emphasis on classical Arabic read in works by medieval and modern writers. This course is designed to give the student experience in reading whole works in Arabic and giving reports on them.

039. (ARAB639) Colloquial Arabic. (C) Staff.

A one-semester, introductory course to the spoken Arabic of one of the regions of the Arab world, chosen according to the dialect of instructor.

041. Beginning Arabic I. (A) Staff. See the LPS Course Guide. **This course does not fulfill the College/Wharton language requirement.

This is a beginner course in Modern Standard Arabic (MSA). It will introduce you to the speaking, listening, reading, and writing skills in the standard means of communication in the Arab world. The course is proficiency-based, implying that all activities are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 041) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in other words (using the terminology of the government's Foreign Service Institute), from 'incipient survival' to 'full' survival' in the native-speaking environment.

042. Beginning Arabic II. (B) Staff. Prerequisite(s): ARAB 041 or permission of the instructor. See the LPS Course Guide. **This course does not fulfill the College language requirement.

043. Continuing Arabic III. (A) Staff. See the CLPS Course Guide. **This course does not fulfill the College language requirement.

This is the continuation of ARAB041 and ARAB 042, the elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. As in ARAB 041-042, evaluation is done by the more traditional testing methods (vocabulary tests, grammar and translation exercises). Completion of this course fulfills the College of Liberal and Professional Studies language requirement in Arabic but not for the School of Arts and Sciences. However, it should be emphasized that you will need a longer period of study to achieve proficiency in Arabic. We anticipate that students range from Intermediate Low to Intermediate High according to the ACTFL scale.

044. Continuing Arabic IV. (B) Staff. Prerequisite(s): ARAB 043 or permission of the instructor. See the LPS Course Guide. **This course does not fulfill the College language requirement. See the LPS Course Guide. **This course does not fulfill the College language requirement.

131. (ARAB431) Intensive**Elementary Arabic I&II. (L)** Staff.

Offered through the College of Liberal and Professional Studies Summer Session I.

This is a six-week intensive beginners' course in Modern Standard Arabic (MSA). It will introduce the student to speaking, listening, reading, and writing skills in the standard means of communication in the Arabic world. The course is proficiency-based, implying that all activities are aimed at placing the student in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 041) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in ot the terminology of the government's Foreign Service Institute) survival' to 'full survival' in the native-speaking environment.

133. (ARAB530) Intensive**Intermediate Arabic I&II. (L)** Staff.

Offered through the College of Liberal and Professional Studies Summer Session I.

This is a six-week intensive course offered in the summer through the LPS School ; see the Penn Summer Course Guide. This is the continuation of ARAB031-32 or ARAB 131, the elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing the student in the context of the native-speaking environment from the very beginning. As in ARAB 031-032 or ARAB 131, evaluation is done by the more traditional testing methods (vocabulary tests, grammar and translation exercises). Completion of this course fulfills the College of Arts and Sciences language requirement in Arabic. However, it should be emphasized that the student will need a longer period of study to achieve proficiency in Arabic. We anticipate that students range from Intermediate Low to Intermediate High according to the ACTFL scale.

135. (ARAB630) Intensive Advanced Intermediate Arabic I&II. (L) Staff.

Offered through the College of Liberal and Professional Studies Summer Session I.

This is a six-week intensive course offered in the summer through the College of General Studies; see Penn Summer Course Guide. It continues from the first intermediate course, ARAB 033/034 or ARAB 133. Emphasis continues to be on all four language skills: speaking, listening, reading, and writing. Students will be

expected to give classroom presentations and to write short essays in Arabic.

Evaluation will be both achievement-based and proficiency-based. There is no Oral Proficiency Interview at the end of this session, but we anticipate that by the end of this, third year students will range in proficiency from Intermediate High to Advanced Mid on the ACTFL scale.

SM 180. Arabic in Residence. (E)**331. (ARAB531) Advanced Spoken Standard Arabic. (C)** Staff.

Prerequisite(s): ARAB 036/636.

The course will concentrate on the reading and speaking skills at the advanced level. Students will be assigned reading and audio-visual materials on which to prepare oral classroom presentations. Final examination in the course will be based on performance in the oral proficiency interview.

332. (ARAB532) Advanced Arabic**Composition. (M)** Staff. Prerequisite(s): ARAB 036/636.

Development of writing skills within a variety of subjects. Extensive readings in various prose techniques and a thorough review of Arabic grammar.

SM 333. Readings in the Qur'an and Tafsir. (M) Lowry. Prerequisite(s): ARAB 35 or permission of the instructor.

This course has two goals: to introduce undergraduate students to reading the Qur'an in Arabic, and to enhance the speaking, listening, and writing skills in MSA. Through the reading and study of selected major Qur'anic narratives and commentary (tafsir), students will become familiar with Qur'anic vocabulary, style, recitation practices, and other intricacies of the Qur'anic text. All students will also memorize a short sura of their choice and practice reciting it in an aesthetically appropriate manner (typically suras 1, 112, 113, or 114). Taught in MSA with writing assignments in MSA.

SM 432. (COLL226, COML432) Arabic Readings in Belles-Lettres. (A) Arts & Letters Sector. All Classes. Staff.

Prerequisite(s): Proficiency in ARAB 036/636.

This course aims to improve reading skills and vocabulary by introducing students to extensive passages taken from a variety of Arabic literary genres from all periods. Taught in MSA with writing assignments in MSA.

SM 435. Readings in Islamic. (M)

Lowry. Prerequisite(s): Completion of ARAB 036/636 Advanced Intermediate Arabic; or permission of the instructor.

This course provides practice in reading pre-modern classical Arabic texts drawn from a variety of intellectual disciplines, especially (but not exclusively) the religious sciences. Although the texts in this course are pre-modern, the course reinforces MSA reading skills.

SM 436. Introduction to Pre-Modern Arabic Texts. (C) Lowry. Prerequisite(s):

Completion of ARAB 036/636 Advanced Intermediate Arabic; or permission of the instructor. May be taken twice for credit with instructors permission.

This course aims to provide incoming graduate students and advanced undergraduate students with an introduction to issues in Arabic grammar and syntax that commonly arise in pre-modern Arabic texts. Students will also be introduced to, and expected to consult, the standard reference works used as aids in reading such texts. Students will be expected to prepare a text or set of texts assigned by the instructor for each session. It is intended that, upon completion of this course, students will be able to work independently with a wide variety of pre-modern Arabic texts. Although the texts in this course are pre-modern, the course reinforces MSA reading skills.

531. (ARAB331) Advanced Spoken Standard Arabic. (A) Staff.

Prerequisite(s): ARAB 036/636.

The course will concentrate on the reading and speaking skills at the advanced level. Students will be assigned reading and audio-visual materials on which to prepare oral classroom presentations. Final examination in the course will be based on performance in the oral proficiency interview. Taught in MSA with writing assignments in MSA.

532. (ARAB332) Advanced Arabic Composition. (M) Staff. Prerequisite(s): ARAB 036/636.

Development of writing skills within a variety of subjects. Extensive readings in various prose techniques and a thorough review of Arabic grammar. Taught in MSA with writing assignments in MSA.

SM 533. Readings in Islamic Law. (M)

Lowry. Prerequisite(s): Completion of ARAB036/636 or permission of the instructor.

631. (ARAB031) Elementary Arabic I. (E) Staff. Prerequisite(s): For the second semester: completion of the first semester or permission of the instructor.

This is the beginners course in Modern Standard Arabic (MSA). It will introduce you to the speaking, listening, reading and writing skills in the standard means of communication in the Arab World. The course is proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. Evaluation is done by the more traditional testing methods (vocabulary tests, dictations, grammar and translation exercises). We anticipate that by the end of this course (ARAB 002) students will range in proficiency from Novice High to Intermediate Low on the ACTFL scale; in other words (using the terminology of the government's Foreign Service Institute), from 'incipient survival' to 'full' survival' in the native-speaking environment.

632. (ARAB032) Elementary Arabic II. (E) Staff.

This course is a continuation of ARAB 031/631.

633. (ARAB033) Intermediate Arabic III. (E) Staff. Prerequisite(s): ARAB 033 or equivalent. For the second semester: completion of the first semester or permission of the instructor.

This is the continuation of the Elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. This is the continuation of ARAB031 and ARAB 032, the elementary course in Modern Standard Arabic (MSA). This course is also proficiency-based, implying that all activities within the course are aimed at placing you, the learner, in the context of the native-speaking environment from the very beginning. As in ARAB 031-032, evaluation is done by the more traditional testing methods (vocabulary tests, grammar and translation exercises). We anticipate that students range from Intermediate Low to Intermediate High according to the ACTFL scale.

634. (ARAB034) Intermediate Arabic IV. (E) Staff.

This course is a continuation of ARAB 033/633.

635. (ARAB035) Advanced Intermediate Arabic I. Staff.

Prerequisite(s): ARAB 033 or permission of instructor.

This is a proficiency-based course which continues from the first intermediate course, ARAB 033/034. Emphasis continues to be on all four language skills: Speaking, Listening, Reading, & Writing. The readings for the class are chosen from actual texts from both medieval and modern Arabic in a variety of fields and subjects. Students will be expected to give classroom presentations and to write short essays in Arabic. Evaluation will be both Achievement- and proficiency- based. The test of speaking ability will

636. (ARAB036) Advanced Intermediate Arabic II. (E) Staff.

This course is a continuation of ARAB 035/635.

637. (ARAB037) Advanced Arabic and Syntax I. (C) Staff. Prerequisite(s): ARAB 036/636 or permission of the instructor.

Advanced syntax through the reading of Arab grammarians. Development of reading in bulk. Emphasis on classical Arabic read in works by medieval and modern writers. This course is designed to give the student experience in reading whole works in Arabic and giving reports on them.

639. (ARAB039) Colloquial Arabic. (M) Staff.

A one-semester, introductory course to the spoken Arabic of one of the regions of the Arab world, chosen according to the dialect of instructor.

SM 730. Topics in Islamics. (C) Staff. The topic may vary from year to year.

SM 731. Topics in Islamic Studies. (C) Lowry. ARAB 436 or equivalent.

Topics vary from year to year in accordance with the interests and needs of students. Although this course typically focuses on premodern Arabic texts, the readings reinforce MSA reading skills.

SM 733. Arabic Texts in Islamic History. (M) Cobb. Prerequisite(s): ARAB 036 or permission of the instructor.

This is a graduate seminar course in which different genres of premodern Arabic texts are covered at the advanced graduate level. Students in this course are expected to be able to read and prepare (vowel, parse, and translate) passages from Arabic texts on a weekly basis and to be able to discuss them

critically during the class itself. Topics are chosen to reflect student interest. Recent and potential topics include: Geographers and travel accounts; biographical dictionaries; chronicles; heresiography; poetry; memoir and sira. Although this course typically focuses on premodern Arabic texts, the readings reinforce MSA reading skills.

401. (HIND400, URDU401) Beginning Hindi Part I. (E) Qureshi. This is a two-semester course offered through the Penn Language Center.

This is a systematic introduction to Urdu language and culture for beginners. The course aims at developing listening and comprehension and a real life interactive speaking ability in a variety of everyday topics. The Urdu script is introduced from the beginning. The target language is presented in its total socio cultural context for achieving a meaningful and operational control of languages. Students acquire basic rules for structural and socio-cultural appropriateness. Students are expected to learn a vocabulary of about 1200 words during the semester. The final evaluation will be based on class participation, performance in quizzes and tests and completed assignments.

402. (HIND401, URDU402) Beginning Hindi-Urdu Part II. Pien.

This continuing first-year course offers beginning students an introduction to the Urdu language and its associated culture. Throughout the first year there will be a special emphasis on speaking and listening skills. The style of language introduced is one that is common to Urdu and Hindi and spoken in both India and Pakistan. Students will also learn to read and write comfortably in the Urdu script. At the end of the first year, students will have learned the skills needed to live in, travel, and engage with Urdu and Hindi speakers throughout South Asia. Students will also acquire a solid conceptual understanding of the language and a broad, functional vocabulary. The course introduces the language through a fun and interactive curriculum that incorporates hands-on activities, role plays, and authentic Urdu in Bollywood film songs.

421. (URDU421) Intermediate Urdu. (E) Qureshi. This is a two-semester course offered through the Penn Language Center.

In Intermediate Urdu, the curriculum focuses on the development of reading, listening and speaking skills. Although there are short assignments for writing in Urdu, the emphasis on developing writing as a skill is not part of the course

objectives. Authentic texts in the three skills include conversations, short stories, current events, articles, films and plays. There is a continuous emphasis on vocabulary development and students are expected to add about five hundred new words to their active vocabulary per semester. The rules of grammar for structural accuracy and social-cultural propriety are parts of the regular curriculum. Class activities include students' short presentations, role-plays, singing and conversations. There are weekly assignments and quizzes, a mid-term and a final examination. The final evaluation will rest on class participation, performance in quizzes and tests, and completed assignments. This is a two-semester course.

431. (URDU431) Advanced Urdu. (E) Qureshi.

HEBREW LANGUAGE COURSES (HEBR)

**051. (HEBR651, JWST051)
Elementary Modern Hebrew I. (C)**
Staff.

An introduction to the skills of reading, writing, and conversing in modern Hebrew. This course assumes no previous knowledge of Hebrew. A grade of B- or higher is needed to proceed to HEBR 052, Elementary Modern Hebrew II.

**052. (HEBR652, JWST052)
Elementary Modern Hebrew II. (C)**
Staff. Prerequisite(s): HEBR 051 or permission of instructor.

A continuation of HEBR 051, First Year Modern Hebrew, which assumes basic skills of reading and speaking and the use of the present tense. Open to all students who have completed one semester of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

**053. (HEBR653, JWST053)
Intermediate Modern Hebrew III. (C)**
Staff. Prerequisite(s): HEBR 052 or permission of the instructor.

Development of the skills of reading, writing, and conversing in modern Hebrew on an intermediate level. Open to all students who have completed two semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

**054. (HEBR654, JWST054)
Intermediate Modern Hebrew IV. (C)**
Staff. Prerequisite(s): HEBR 053 or permission of instructor.

This course constitutes the final semester of Intermediate Modern Hebrew. Hence, one of the main goals of the course is to prepare the students for the proficiency exam in Hebrew. Emphasis will be placed on grammar skills and ability to read literary texts. Open to all students who have completed three semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

**059. (HEBR552, JWST059) Advanced
Modern Hebrew: Reading and
Composition. (C)** Engel. Prerequisite(s): HEBR 054 or permission of instructor.

After four semesters of language study, it's time to enter the vibrant world of contemporary Israeli culture. In this course students read some of the best plays, poems, short stories, and journalism published in Israel today. They also watch and analyze some of Israel's most popular films, TV programs, and videos. Themes include Jewish-Arab relations, the founding of the State, family ties and intergenerational conflict, war and society, and the recent dynamic changes in Israel society. HEBR 054 or permission of instructor. Since the content of this course may change from year to year, students may take it more than once (but only once for credit).

**151. (HEBR451, JWST171, JWST471)
Elementary Biblical Hebrew I. (A)**
Carasik.

This course is an introduction to Biblical Hebrew. It assumes no prior knowledge, but students who can begin to acquire a reading knowledge of the Hebrew alphabet before class starts will find it extremely helpful. The course is the 1st of a 4-semester sequence whose purpose is to prepare students to take courses in Bible that demand a familiarity with the original language of the text.

**152. (HEBR452, JWST172, JWST472)
Elementary Biblical Hebrew II. (B)**
Carasik. Prerequisite(s): Successful completion of HEBR 151 or permission of the instructor.

A continued introduction to the grammar of Biblical Hebrew, focusing on the verbal system, with an emphasis on developing language skills in handling Biblical texts. A suitable entry point for students who have had some modern Hebrew.

**153. (HEBR453, JWST173, JWST473)
Intermediate Biblical Hebrew I. (A)**
Carasik. Prerequisite(s): Successful completion of HEBR 152 or permission of the instructor. This course is the prerequisite for HEBR 154 (no one is "permitted" into that semester; you must take the previous semester course).

This course will focus on using the grammar and vocabulary learned at the introductory level to enable students to read Biblical texts independently and take advanced Bible exegesis courses. We will also work on getting comfortable with the standard dictionaries, concordances, and grammars used by scholars of the Bible. We will concentrate on prose this semester, closely reading Ruth, Jonah, and other prose selections. We will begin to translate from English into Biblical Hebrew, and there will also be a unit on the punctuation marks used in the Bible. This is a suitable entry point for students who already have strong Hebrew skills.

**154. (HEBR454, JWST174, JWST474)
Intermediate Biblical Hebrew II. (B)**
Carasik. Prerequisite(s): Successful completion of HEBR 153.

This course is a continuation of the Fall semester's Intermediate Biblical Hebrew I. No one will be admitted into the course who has not taken the Fall semester. It will continue to focus on using the grammar and vocabulary learned at the introductory level to enable students to read biblical texts independently and take advanced Bible exegesis courses. We will concentrate this semester on various selections of Biblical poetry, including Exodus 15 and Job 28. We will also continue to translate English prose into Biblical Hebrew.

182. Study Abroad.

**250. (COML228, JWST256, RELS220)
Studies in the Hebrew Bible. (B)** Staff.

This course introduces students to the methods and resources used in the modern study of the Bible. To the extent possible, these methods will be illustrated as they apply to a single book of the Hebrew Bible that will serve as the main focus of the course.

The course is designed for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes fluency in reading and translating Biblical Hebrew and a working knowledge of Biblical Hebrew grammar.

SM 258. (FOLK258, HEBR558, JWST258, RELS228) Studies in Medieval Jewish Literature. (C)

Fishman. Prerequisite(s): Reading knowledge of Hebrew.

This course will introduce students to the modern academic study of the different genres of medieval Jewish literature--poetry, narrative, interpretation of the Bible, liturgy, historiography, philosophy, sermon, mystical and pietistic writings. In addition to studying the primary texts, the course will also explore the historical, religious, and cultural contexts in which these texts were first produced and then studied, and the aspects of Jewish historical experience that these texts reflect. The specific topic of the course (eg. Medieval Biblical Interpretation, Kabbalah) will vary from semester to semester. In some cases, the specific topic may also be the work of a specific author, like Maimonides. Primary sources will be read in their original Hebrew. While no previous experience in studying these texts is required, students should be able to read unpointed Hebrew texts. If there is a question as to whether the course is appropriate for you, please contact the professor.

SM 259. (COML266, HEBR559, JWST259) Introduction to Modern Hebrew Literature: 1ST ISRAELIS:AMICHAH, OZ. (A)

Arts & Letters Sector. All Classes. Gold. Prerequisite(s): HEBR 059 or equivalent. The class will be conducted in Hebrew and the texts read in the original. There will be 3-4 short papers and a final exam.

Fall 2016: We will discuss literary works that reflect Israelis' struggle with their national identity. For the patriotic 1948 generation, self and country were one and the same while contemporary writers ask what it means to be Israeli. Yehuda Amichai's 1955 poem "I want to die in my bed" was a manifesto for individualism, yet the seemingly interminable Arab-Israeli conflict forced writers to return to the national, social, and political arenas starting in the 1980s, although in entirely different ways. Readings include works by the contemporary Orly Kastel Bloom, Etgar Keret and Sayed Kashua as well as by the early writers Natan Alterman, Amir Gilboa, Dahlia Ravikovitch, A.B. Yehoshua, and David Grossman. The class is conducted in Hebrew and all texts are read in the original. The amSeminar. Fulfills Arts & Letters. (HEBR 259, HEBR 559, COML 266, COLL 227)

SM 350. (HEBR550, JWST351, RELS322) A Book of the Bible. (A)

Staff. Prerequisite(s): Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English. The course is designed primarily for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes fluency in reading Biblical Hebrew, including a working knowledge of Biblical Hebrew grammar.

In-depth textual study of a book of the Hebrew Bible studied in the light of modern scholarship (including archaeology and ancient Near Eastern literature) as well as ancient and medieval commentaries. The book varies each semester and the course may be repeated for credit.

Prerequisite(s): Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English.

356. (HEBR656, RELS327) Talmudic Midrashic Literature. (M)

Staff. Prerequisite(s): Two years of Hebrew or equivalent required.

An introduction to the reading of classical Rabbinic literature. The topic will vary ranging from Talmudic to Siddur. Readings will be in Hebrew with supplemental English works.

357. (HEBR657, JWST352, JWST552) Classical Midrash & Aggadah. (D)

Staff. Prerequisite(s): Students must be able to read an unpointed Hebrew text.

Readings in Rabbinic lore from classical Midrashic texts.

358. (HEBR658, JWST355) Siddur and Piyyut. (M)

Staff. Prerequisite(s): HEBR 052 or equivalent.

A study of the institution of Jewish prayer, its literature, and synagogu poetry. Texts will be read in Hebrew with supplementary English readings.

SM 359. (CIMS359, COLL227, COML359, HEBR659, JWST359) Seminar Modern Hebrew Literature. (B)

Arts & Letters Sector. All Classes. Gold. Prerequisite(s): HEBR 059 or HEBR 259 or permission of the instructor. This class is conducted in Hebrew and the texts are read in the original. The syllabus serves solely as an outline. The amount of material we cover depends on the pace of the class. Additionally, the packet contains significantly more material than will be studied in class to compensate for the difficulty of obtaining Hebrew texts in America. The content of this course changes from year to year and therefore students may take it for credit more than once.

The content of this course changes from year to year; and, therefore, students may take it for credit more than once.

451. (HEBR151, JWST171, JWST471) Elementary Biblical Hebrew I. (A)

Carasik.

This course is an introduction to Biblical Hebrew. It assumes no prior knowledge, but students who can begin to acquire a reading knowledge of the Hebrew alphabet before class starts will find it extremely helpful. The course is the 1st of a 4-semester sequence whose purpose is to prepare students to take courses in Bible that demand a familiarity with the original language of the text.

452. (HEBR152, JWST172, JWST472) Elementary Biblical Hebrew II. (B)

Carasik. Prerequisite(s): Successful completion of HEBR 451 or permission of the instructor.

A continued introduction to the grammar of Biblical Hebrew, focusing on the verbal system, with an emphasis on developing language skills in handling Biblical texts. A suitable entry point for students who have had some modern Hebrew.

453. (HEBR153, JWST173, JWST473) Intermediate Biblical Hebrew I. (A)

Carasik. Prerequisite(s): Successful completion of HEBR 452 or permission of the instructor. This course is the prerequisite for HEBR 454 (no one is "permitted" into that semester; you must take the previous semester course).

This course will focus on using the grammar and vocabulary learned at the introductory level to enable students to read Biblical texts independently and take advanced Bible exegesis courses. We will also work on getting comfortable with the standard dictionaries, concordances, and grammars used by scholars of the Bible. We will concentrate on prose this semester,

closely reading Ruth, Jonah, and other prose selections. We will begin to translate from English into Biblical Hebrew, and there will also be a unit on the punctuation marks used in the Bible. This is a suitable entry point for students who already have strong Hebrew skills.

454. (HEBR154, JWST174, JWST474) Intermediate Biblical Hebrew II. (B) Carasik. Prerequisite(s): Successful completion of HEBR 453.

This course is a continuation of the Fall semester's Intermediate Biblical Hebrew I. No one will be admitted into the course who has not taken the Fall semester. It will continue to focus on using the grammar and vocabulary learned at the introductory level to enable students to read biblical texts independently and take advanced Bible exegesis courses. We will concentrate this semester on various selections of Biblical poetry, including Exodus 15 and Job 28. We will also continue to translate English prose into Biblical Hebrew.

455. Post-Baccalaureate Hebrew Texts. (M) Staff.

SM 486. (JWST426, RELS426) Rabbinic Writers on Rabbinic Culture. (M) Fishman. Prerequisite(s): Reading knowledge of Hebrew.

This course traces reflections on rabbinic culture produced within Jewish legal literature of the classic rabbinic period - - Midrash, Mishna, and Talmud - - and in later juridical genres - - Talmudic commentary, codes and responsa. Attention will be paid to the mechanics of different genres, the role of the underlying proof-text, the inclusion or exclusion of variant opinions, the presence of non-legal information, attitudes toward predecessors, balance between precedent and innovation.

SM 550. (HEBR350, JWST351, JWST550, RELS322, RELS521) A Book of the Bible. (A) Staff.

Prerequisite(s): Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English. The course is designed primarily for undergraduates who have previously studied the Bible in Hebrew either in high school or college. It presupposes fluency in reading Biblical Hebrew, including a working knowledge of Biblical Hebrew grammar.

In-depth textual study of a book of the Hebrew Bible studied in the light of modern scholarship (including archaeology and ancient Near Eastern literature) as well

as ancient and medieval commentaries. The book varies each semester and the course may be repeated for credit. Prerequisite(s): Thorough command of Biblical Hebrew and prior experience studying the Bible in the original in high school, college, or a comparable setting. Language of instruction is in English.

552. (HEBR059, JWST059) Advanced Modern Hebrew: Reading and Composition. (C) Engel. Prerequisite(s): HEBR 054 or permission of instructor.

After four semesters of language study, it's time to enter the vibrant world of contemporary Israeli culture. In this course students read some of the best plays, poems, short stories, and journalism published in Israel today. They also watch and analyze some of Israel's most popular films, TV programs, and videos. Themes include Jewish-Arab relations, the founding of the State, family ties and intergenerational conflict, war and society, and the recent dynamic changes in Israel society. HEBR 054 or permission of instructor. Since the content of this course may change from year to year, students may take it more than once (but only once for credit).

SM 557. (JWST257, NELC557) Studies in Rabbinic Literature: Law and Judaism. (D) Prerequisite(s): Knowledge of Hebrew.

SM 558. (FOLK258, HEBR258, JWST258, RELS228) Studies in Medieval Jewish Literature. (C)

Fishman. Prerequisite(s): Undergraduates need permission from the instructor.

This course will introduce students to the modern academic study of the different genres of medieval Jewish literature--poetry, narrative, interpretation of the Bible, liturgy, historiography, philosophy, sermonic, mystical and pietistic writings. In addition to studying the primary texts, the course will also explore the historical, religious, and cultural contexts in which these texts were first produced and then studied, and the aspects of Jewish historical experience that these texts reflect. The specific topic of the course (eg. Medieval Biblical Interpretation, Kabbalah) will vary from semester to semester. In some cases, the specific topic may also be the work of a specific author, like Maimonides. Primary sources will be read in their original Hebrew. While no previous experience in studying these texts is required, students should be able to read unpointed Hebrew texts. If there is a question as to whether the course is appropriate for you, please contact the professor.

SM 559. (COLL227, COML266, HEBR259, JWST259) Introduction to Modern Hebrew Literature: 1ST ISRAELIS:AMICHAH, OZ. (A) Gold.

Prerequisite(s): HEBR 059 or equivalent. The class will be conducted in Hebrew and the texts read in the original. There will be 3-4 short papers and a final exam.

Fall 2016: We will discuss literary works that reflect Israelis' struggle with their national identity. For the patriotic 1948 generation, self and country were one and the same while contemporary writers ask what it means to be Israeli. Yehuda Amichai's 1955 poem "I want to die in my bed" was a manifesto for individualism, yet the seemingly interminable Arab-Israeli conflict forced writers to return to the national, social, and political arenas starting in the 1980s, although in entirely different ways. Readings include works by the contemporary Orly Kastel Bloom, Etgar Keret and Sayed Kashua as well as by the early writers Natan Alterman, Amir Gilboa, Dahlia Ravikovitch, A.B. Yehoshua, and David Grossman. The class is conducted in Hebrew and all texts are read in the original. The seminar fulfills Arts & Letters. (HEBR 259, HEBR 559, COML 266, COLL 227) original. The content of this course changes from year to year and therefore students may take it for credit more than once.

The content of this course changes from year to year, thus students may take it for credit more than once.

SM 583. (COML527, HIST523, JWST523, RELS523) Studies in Medieval Jewish Culture. (A) Fishman.

Prerequisite(s): Unless otherwise noted, reading knowledge of Hebrew is required.

According to reigning historiography, the Jewish subcultures of Ashkenaz and Sefarad developed differently because the former was the cultural heir of ancient Palestinian Jewry, while the latter was the heir of Babylonian Jewry. Yet scholarship of the last several decades has shown the inadequacy of this claim. This graduate level course will reconstruct some of the underlying problems with this claim and suggest that examination of developments in the broader Roman, Christian and Islamic societies offer alternate ways of accounting for the emergence of these Jewish subcultures in the Middle Ages. Topics to be explored include cultural-geographic patterns following the collapse of the Roman Empire; divergent approaches to Islamic law under the abbasid and Umayyad caliphates; genres of legal composition in different parts of the Islamic world, and the status of aggadah (i.e., non-legal rabbinic tradition) in

medieval Ashkenaz and Sephardic traditions. Undergraduates may attend with the instructor's permission.

651. (HEBR051, JWST051) Elementary Modern Hebrew I. (C)
Staff.

An introduction to the skills of reading, writing, and conversing in modern Hebrew. This course assumes no previous knowledge of Hebrew.

652. (HEBR052, JWST052) Elementary Modern Hebrew II. Staff.
Prerequisite(s): HEBR 651 or permission of instructor.

A continuation of HEBR 051, First Year Modern Hebrew, which assumes basic skills of reading and speaking and the use of the present tense. Open to all students who have completed one semester of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

653. (HEBR053, JWST053) Intermediate Modern Hebrew III. (C)
Staff. Prerequisite(s): HEBR 652 or permission of the instructor.

Development of the skills of reading, writing, and conversing in modern Hebrew on an intermediate level. Open to all students who have completed two semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

654. (HEBR054, JWST054) Intermediate Modern Hebrew IV. (C)
Staff. Prerequisite(s): HEBR 653 or permission of instructor.

This course constitutes the final semester of Intermediate Modern Hebrew. Hence, one of the main goals of the course is to prepare the students for the proficiency exam in Hebrew. Emphasis will be placed on grammar skills and ability to read literary texts. Open to all students who have completed three semesters of Hebrew at Penn with a grade of B- or above and new students with equivalent competency.

656. (HEBR356, RELS327) Talmudic Midrashic Literature. (M) Staff.
Prerequisite(s): Two years of Hebrew or equivalent required.

An introduction to the reading of classical Rabbinic literature. The topic will vary ranging from Talmudic to Siddur. Readings will be in Hebrew with supplemental English works.

657. (HEBR357, JWST352, JWST552) Classical Midrash & Aggadah. (D)
Staff. Prerequisite(s): Students must be able to read an unpointed Hebrew text.

Readings in Rabbinic lore from classical Midrashic texts.

658. (HEBR358, JWST355, JWST655) Siddur & Piyyut. Staff. Prerequisite(s): HEBR 054 or equivalent.

A study of the institution of Jewish prayer, its literature, and synagogue poetry. Texts will be read in Hebrew with supplementary English readings.

SM 659. (CIMS359, COLL227, COML359, HEBR359, JWST359) Seminar Modern Hebrew Literature. (M) Gold. Prerequisite(s): HEBR 059 or HEBR 259 or permission of the instructor.

This class is conducted in Hebrew and the texts are read in the original. The syllabus serves solely as an outline. The amount of material we cover depends on the pace of the class. Additionally, the packet contains significantly more material than will be studied in class to compensate for the difficulty of obtaining Hebrew texts in America. The content of this course changes from year to year and therefore students may take it for credit more than once. The content of this course changes from year to year; and, therefore, students may take it for credit more than once.

This course is for students who are interested in taking a literature course in Hebrew and are proficient in it. Grading is based primarily on students' literary understanding. There will be four 2-page written assignments over the course of the semester. We will discuss literary works that reflect Israelis' struggle with their national identity, from the patriotic 1948 generation for whom self and country overlapped to contemporary writers who ask what it means to be Israeli. While Yehuda Amichai's 1955 poem "I want to die in my bed" was a manifesto for individualism, the seemingly interminable Arab-Israeli conflict returned writers to the national, social, and political arenas starting in the 1980's. Readings include poems by Natan Alterman, Amir Gilboa, Meir Wieseltier and Roni Somek as well as fiction by Amos Oz, David Grossman, Sayed Kashua, Alona Kimhi and Etgar Keret. Texts, discussions and papers in Hebrew. The content of This course changes from year to year so students may take it for credit more than once.

PERSIAN LANGUAGE COURSES (PERS)

011. (PERS611) Elementary Persian I. (A) Entezari.

This course is designed to help you start learning Persian and to give you the necessary tools to continue your study of Persian. This course introduces the Persian alphabet alongside grammar and vocabulary. Emphasis is placed on actively using the language for interpersonal, interpretive, and presentational modes of communication. The four language skills (i.e., listening, speaking, reading and writing) as well as pronunciation and culture are integrated into the curriculum. There is no prerequisite.

012. (PERS612) Elementary Persian II. (B) Entezari.

This course is designed to help you build upon what you have learned in Elementary Persian I. Emphasis is placed on using the language for interpersonal, interpretive, and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing-as well as culture, vocabulary, grammar, and pronunciation-are integrated into the course. Students must either have successfully completed PERS-011, or take the departmental exam.

013. (PERS613) Intermediate Persian I. (A) Entezari. Prerequisite(s): PERS 012 or equivalent.

This course is conducted in Persian and designed to help you continue expanding upon what you have learned in Elementary Persian II (PERS-012). In this course, we will begin to address a broader variety of cultural topics in order to increase your proficiency in linguistic as well as cultural terms. Emphasis is placed on actively using the language for interpersonal, interpretive and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing are integrated into the course, as are culture, grammar, vocabulary, and pronunciation. Students must either have successfully completed PERS-012 or take the departmental placement exam.

014. (PERS614) Intermediate Persian II. (B) Entezari.

In this course, we will continue to address a broader variety of cultural topics in order to increase your proficiency in linguistic as well as cultural terms. Emphasis is placed on actively using Persian for interpersonal, interpretive and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading,

and writing are integrated into the course, as are culture, grammar, vocabulary, and pronunciation. Students must either have successfully completed PERS-013, or take the departmental placement exam.

015. (PERS615) Advanced Persian I. (A) Staff. Prerequisite(s): For the second semester: completion of the first semester or permission of the instructor; PERS 013 or PERS 017 or permission of the instructor.

016. (PERS616) Advanced Persian II. (B) Assefi-Shirazi. Prerequisite(s): PERS015 or permission of the instructor.

017. (PERS617) Persian for Heritage Speakers I. (C) Assefi-Shirazi. Prerequisite(s): Fluency in spoken Persian. An intensive course designed to teach the reading and writing of standard Tehran Persian to those with a speaking knowledge of that language. In recent years there has been an increasing demand from Persian-speaking Iranian-American students for formal instruction in Persian. While many of these students have some degree of spoken fluency in Persian, they are often unable to read or write it. Their speaking ability makes it difficult to integrate them into first- or second-year classes of students who have started with no knowledge of Persian. If these Persian-speaking students could be brought to at least a second-year level of reading and writing, they could then be enrolled in more advanced courses in Persian where they would be more or less at the same level as other students. The course will focus on the lexical and syntactic differences between written and spoken Persian, and the problems of Persian spelling.

018. Advanced Persian in the Media. (C) Staff.

111. (PERS511, SAST405) Beginning Pashtu I. (A) Santry. Reading, writing, basic grammar and elemental speaking.

SM 112. (PERS512, SAST406) Beginning Pashtu II. (B) Santry. Prerequisite(s): For second semester, completion of the first semester. This is a two-semester course. Reading, writing, basic grammar and elemental speaking.

113. (PERS513, SAST425) Intermediate Pashtu. (A) Santry. Prerequisite(s): Beg. Pashtu, or permission by instructor. A wide variety of reading genres, writing, and oral expression.

SM 114. (PERS514, SAST426) Intermediate Pashtu Part II. (B) Santry. Offered through Penn Language Center. This is a two-semester course. Beg. Pashto, or permission of the instructor. A wide variety of reading genres, writing, and oral expression

115. (PERS515, SAST435) Advanced Pashtu I. (A) Santry. Prerequisite(s): Beg. And Int. Pashto required. Offered through the Penn Language Center. Modern literary short stories. BBC news broadcasts for listening comprehension and discussion.

116. (PERS516, SAST445) Advanced Pashtu II. (B) Santry. Offered through Penn Language Center. Pashto dialects, using recordings from different regions. BBC broadcasts for listening comprehension and discussion.

511. (PERS111, SAST405) Beginning Pashtu I. (A) Santry. Offered through the Penn Language Center. Reading, writing, basic grammar and elemental speaking.

SM 512. (PERS112, SAST406) Beginning Pashtu Part II. (G) Santry. Prerequisite(s): For second semester, completion of the first semester. Offered through Penn Language Center. This is a two-semester course. Reading, writing, basic grammar and elemental speaking.

513. (PERS113, SAST431) Intermediate Pashtu I. (G) Santry. Prerequisite(s): Beg. Pashtu, or permission by instructor. Offered through the Penn Language Center. A wide variety of reading genres, writing, and oral expression.

SM 514. (PERS114, SAST426) Intermediate Pashtu Part II. (G) Santry. Offered through Penn Language Center. This is a two-semester course.

515. (PERS115, SAST432) Advanced Pashtu I. (G) Santry. Offered through the Penn Language Center.

516. (PERS116) Advanced Pashtu II. (G) Santry. Offered through Penn Language Center.

611. (PERS011) Elementary Persian I. (A) Entezari.

This course is designed to help you start learning Persian and to give you the necessary tools to continue your study of Persian. This course introduces the Persian alphabet alongside grammar and vocabulary. Emphasis is placed on actively using the language for interpersonal, interpretive, and presentational modes of communication. The four language skills (i.e., listening, speaking, reading and writing) as well as pronunciation and culture are integrated into the curriculum. There is no prerequisite.

612. (PERS012) Elementary Persian II. (B) Entezari.

This course is designed to help you build upon what you have learned in Elementary Persian I. Emphasis is placed on using the language for interpersonal, interpretive, and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing-as well as culture, vocabulary, grammar, and pronunciation-are integrated into the course. Students must either have successfully completed PERS-611, or take the departmental exam.

613. (PERS013) Intermediate Persian I. (A) Entezari. Prerequisite(s): For the second semester: Completion of the first semester or permission of the instructor.

This course is conducted in Persian and designed to help you continue expanding upon what you have learned in Elementary Persian II (PERS-012). In this course, we will begin to address a broader variety of cultural topics in order to increase your proficiency in linguistic as well as cultural terms. Emphasis is placed on actively using the language for interpersonal, interpretive and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing are integrated into the course, as are culture, grammar, vocabulary, and pronunciation. Students must either have successfully completed PERS-612 or take the departmental placement exam.

614. (PERS014) Intermediate Persian II. (B) Entezari.

In this course, we will continue to address a broader variety of cultural topics in order to increase your proficiency in linguistic as well as cultural terms. Emphasis is placed on actively using Persian for interpersonal, interpretive and presentational modes of communication. Therefore use of English is restricted. Listening, speaking, reading, and writing are integrated into the course, as are culture, grammar, vocabulary, and

pronunciation. Students must either have successfully completed PERS-613, or take the departmental placement exam.

615. (PERS015) Advanced Persian I. (A) Staff. Prerequisite(s): For the second semester: completion of the first semester or permission of the instructor; PERS 013 or PERS 017 or permission of the instructor.

616. (PERS016) Advanced Persian II. (B) Staff.

617. (PERS017) Persian Reading and Writing for Fluent Speakers. (C) Staff. Prerequisite(s): Fluency in spoken Persian.

An intensive, one-semester course designed to teach the reading and writing of standard Tehran Persian to those with a speaking knowledge of that language. In recent years there has been an increasing demand from Persian-speaking Iranian-American students for formal instruction in Persian. While many of these students have some degree of spoken fluency in Persian, they are often unable to read or write it. Their speaking ability makes it difficult to integrate them into first- or second-year classes of students who have started with no knowledge of Persian. If these Persian-speaking students could be brought to at least a second-year level of reading and writing, they could then be enrolled in more advanced courses in Persian where they would be more or less at the same level as other students. The course will focus on the lexical and syntactic differences between written and spoken Persian, and the problems of Persian spelling.

TURKISH LANGUAGE COURSES (TURK)

021. (TURK621) Elementary Turkish I. (A) Hatiboglu.

This is a course for beginners who have no previous knowledge of Turkish. Using a communicative approach, Elementary Turkish introduces basic vocabulary and grammar rules and focuses on building language competencies in listening, reading, speaking and writing. By the end of the course, students will be able to participate in simple conversations, to know daily expressions, and will understand simple dialogues in day-to-day context and will be able to count and tell time. Will be able to speak about events that happened in the past and express plans for the future. Students will also develop writing strategies that will allow them to write simple letters and fill in commonly-used forms.

022. (TURK622) Elementary Turkish II. (B) Hatiboglu. Prerequisite(s): TURK 021, Elementary Turkish I, or equivalent.

This course is a continuation of TURK 021 and is designed to strengthen and extend students' listening, speaking, reading and writing competence and to deepen an understanding of Turkish people in Turkey. By the end of this course, students will be able to handle a variety of day to day needs in Turkish-speaking settings and engage in simple conversations. Students can expect to be able to order food and drinks, purchase things, and to be able to be familiar with current social topics. Students will be able to talk about all tenses, present, future, past, past continuous, make comparisons, describe people and things in detail, make travel plans, make reservations in hotels and holiday resorts, write complaint letters. By the end of the course, students will be able to talk about their studies and their plans for the future. Also, students will develop reading strategies that should allow them to understand the general meaning of articles, and short literary texts. Students will learn practical life in Turkey and will explore Turkish culture on the internet.

023. (TURK623) Intermediate Turkish I. (A) Hatiboglu. Prerequisite(s): TURK 022 or equivalent.

A continuation of elementary Turkish, with emphasis on grammar and reading. This course is for students who have previous knowledge of Turkish or students who have completed Elementary Turkish I and II. This course is designed to improve students' writing and speaking competence, to increase vocabulary, to deepen grammar usage and to help develop effective reading and listening strategies in Turkish, and in order give them cultural knowledge, students are exposed to authentic materials.

024. (TURK624) Intermediate Turkish II. (B) Hatiboglu.

Expands students writing and speaking competence in Turkish, increases vocabulary, and helps students' practice effective reading and listening strategies. Our in-class discussions are based on role-plays and weekly readings and news reports from TV and newspapers. We create discussion groups and let them communicate through, threaded discussions, chat rooms and skype. The review of grammar will not be the primary focus of the course. Students will, expand and deepen their knowledge of grammar through specific grammar exercises. They will have opportunity to practice and read about the cultural and historical issues and get prepared for an advanced level Turkish.

025. (TURK625) Advanced Modern Turkish I. (A) Hatiboglu. Prerequisite(s): TURK 024, Intermediate Turkish II.

The study of modern Turkish at the advanced level; emphasis on grammar and reading, focusing on Business Turkish. Interviews with professionals from different business groups will take place, such as, education, medicine, business law and political science.

026. (TURK626) Advanced Modern Turkish II. (B) Hatiboglu. Prerequisite(s): TURK 025, Advanced Modern Turkish I, or equivalent.

This course is designed to improve students writing and speaking levels through role plays, case studies, essays, interviews, reading articles from newspapers, analyzing books of contemporary Turkish authors such as Orhan Pamuk, Elif Safak, Ayse Kulin, Yasar Kemal and introduce students to Turkish poets such as Nazim Hikmet, Orhan Veli, Ozdemir Asaf, Murathan Mungan, Can Yucel. During each lesson, students will be asked to interview each other on given news articles about different subjects including economy, politics, sports, art, music and daily news. These conversations will take place on student's level of Turkish knowledge.

027. (TURK627) Advanced Spoken Turkish and Cinema I. (A) Hatiboglu.

028. (TURK628) Advanced Spoken Turkish and Cinema II. (B)

SM 121. (TURK521) Advanced Turkish Culture & Media I. (A) Hatiboglu.

This course is for students who are from all different levels of Turkish knowledge. They are expected to write and talk about Turkish movies, culture, politics according to their own level and pace. They will talk to Turkish visitors and interview them. Turkish movies will be the part of the course and once a month, students will watch a Turkish movie and analyze it. Discussions will take place and students will write essays about the movie. This course is designed with a technology-rich, project based approach. The materials will go beyond instruction in grammar and vocabulary to support the acquisition of socio-cultural pragmatics, and intercultural learning.

SM 122. (TURK522) Advanced Turkish Culture & Media II. (B) Hatiboglu.

Similar to TURK 212, Advanced Turkish Culture & Media I, in this course students also will have exposure to social Turkish

clubs and to establish their own. They will arrange their Turkish tea parties and learn about Turkish cuisine. Expose Turkish daily news and interview Turkish business people in Turkish. Team spirit or ethics with those of the United States. Students will present and prepare a drama. Mainly students will create and decide their activities and discussions and the instructor will just monitor them most of time. They will continue watching Turkish movies and expose to Turkish culture through these films. After each movie discussions and essay writings will be expected.

SM 229. (TURK629) Ottoman Turkish I. (M) Hatiboglu. Prerequisite(s): Two semesters of Turkish and two semesters of Arabic or Persian OR four semesters of Turkish or equivalent.

This course is an introduction to Ottoman Turkish with basic characteristics. Ottoman Turkish through readings in printed selections will be exercised with different techniques. Students will learn Persian and Arabic effects on Ottoman Turkish. They will be able to read simple texts at the end of this course. General information on Ottoman Turkish will be given to students during this course. This course will be offered one semester during the school year.

Not open to auditors

SM 329. (TURK729) ADV RDGS OTTOMAN TEXTS. (M)

SM 521. (TURK121) Advanced Turkish Culture & Media I. (A) Hatiboglu.

This course is TURK 121 for graduate students.

SM 522. (TURK122) Advanced Turkish Culture & Media II. (B)

Hatiboglu.

This course is TURK 122 for graduate students.

621. (TURK021) Elementary Turkish I. (A) Hatiboglu.

This course is TURK-021 for graduate students. Introduction to the spoken and written language of contemporary Turkey.

622. (TURK022) Elementary Turkish II. (B) Hatiboglu. Prerequisite(s): TURK 621, Elementary Turkish II or equivalent.

This course is TURK 022 for graduate students.

623. (TURK023) Intermediate Turkish I. (A) Hatiboglu. Prerequisite(s): TURK 622, Elementary Turkish II, or equivalent.

A continuation of TURK 622, with emphasis on grammar and reading. This course is TURK 022 for graduate students.

624. (TURK024) Intermediate Turkish II. (B) Hatiboglu. Prerequisite(s): TURK 623, Intermediate Turkish I or equivalent.

This course is TURK 024 for graduate students.

625. (TURK025) Advanced Modern Turkish I. (A) Hatiboglu. Prerequisite(s): TURK 024, Intermediate Turkish II or equivalent.

The study of modern Turkish at the advanced level; emphasis on grammar and reading, focusing on business Turkish. Interviews with professionals from different business groups will take place, such as, education, medicine, business, law,

and political science. This course is TURK 025 for graduate students.

626. (TURK026) Advanced Modern Turkish II. (B) Hatiboglu. Prerequisite(s): TURK 625, Advanced Modern Turkish I, or equivalent.

This course is TURK 026, Advanced Modern Turkish II for graduate students.

627. (TURK027) ADV SPOKEN TURK/CINEMA. (A)

628. (TURK028) ADV SPKN TURK/CINEMA II. (B)

SM 629. (TURK229) Ottoman Turkish I. (M) Hatiboglu. Prerequisite(s): One semester Arabic or Persian equivalent.

This course is an introduction to Ottoman Turkish with basic characteristics. Ottoman Turkish through readings in printed selections will be exercised with different techniques. Students will learn Persian and Arabic effects on Ottoman Turkish. They will be able to read simple texts at the end of this course. General information on Ottoman Turkish will be given to students during this course. This course will be offered one semester during the school year.

SM 729. (TURK329) ADV RDGS OTTOMAN TEXTS.

**INSTITUTE OF
NEUROLOGICAL
SCIENCES
(MD) {NGG}**

510. (PHRM510) Neurotransmitter Signaling & Pharmacology. (J) Steve Thomas, Teresa Reyes, Chris Pierce.

This course will provide in-depth information on neurotransmitters and their associated signaling systems. Emphasis will be placed on the wealth of new molecular information that has been gathered to examine how neurons function and communicate. Students will develop skills to appreciate, present and critically evaluate the current literature in neurotransmitter signaling and neuropharmacology.

521. (BE 521) Brain Computer Interface. Prerequisite(s): BE 301 (Signals and Systems) or equivalent, computer programming experience, preferably MATLAB (e.g., as used in BE labs, BE 209/210/310). Some basic neuroscience background (e.g. BIOL 215, BE 305, BE 520, NGG core course), or independent study in neuroscience, is required. This requirement may be waived based upon practical experience on a case by case basis by the instructor.

This course is geared to advanced undergraduate and graduate students interested in understanding the basics of implantable neuro-devices, their design, practical implementation, approval, and use. Reading will cover the basics of neuro signals, recording, analysis, classification, modulation, and fundamental principles of Brain-Machine Interfaces. The course will be based upon twice weekly lectures and "hands on" weekly assignments that teach basic signal recording, feature extraction, classification and practical implementation in clinical systems. Assignments will build incrementally toward constructing a complete, functional BMI system. Fundamental concepts in neurosignals, hardware and software will be reinforced by practical examples and in-depth study. Guest lecturers and demonstrations will supplement regular lectures.

SM 534. (CAMB534) Sem Current Genetics Research. (B)

This is an advanced seminar course emphasizing genetic research in model organisms and how it informs modern medicine. Each week a student will present background on a specific human disease. This is followed by an intense discussion by the entire class of 2 recent papers in

which model organisms have been used to address the disease mechanism and/or treatment. As a final assignment, students will have the opportunity to write, edit, and publish a "News & Views" style article in the journal "Disease Models and Mechanisms".

572. Electrical Language of Cells. (A) Toshinori Hoshi, Doug Coulter.

This course introduces students to high-speed electro-chemical signaling mechanisms that occur in nerve and other excitable cells during normal activity. Topics considered in substantial detail include: a) a basic description of the passive and active membrane electrical properties; b) the molecular architecture and functional role of ion channels in cell signaling; c) the role of the calcium ion as an ubiquitous chemical messenger, with applications to neuro-secretion; d) excitatory and inhibitory transmission in the central nervous system; e) sensory transduction, as illustrated by the visual, olfactory, and auditory pathways. The course assumes a standard background in cell biology, as well as basic concepts from college physics and college calculus.

573. (PSYC609) Systems Neuroscience. (B) Yale Cohen, Diego Contreras.

This course provides an introduction to what is known about how neuronal circuits solve problems for the organism and to current research approaches to this question. Topics include: vision, audition, olfaction, motor systems, plasticity, and oscillations. In addition, the course aims to provide an overview of the structure of the central nervous system. A number of fundamental concepts are also discussed across topics, such as: lateral inhibition, integration, filtering, frames of reference, error signals, adaptation. The course format consists of lectures, discussions, readings of primary literature, supplemented by textbook chapters and review articles.

575. (BIOL442, PSYC421) Neurobiology of Learning and Memory. (I) Ted Abel, Isabel Muzzio.

This course focuses on the current state of our knowledge about the neurological basis of learning and memory. A combination of lectures and discussions will explore the molecular and cellular basis of learning in invertebrates and vertebrates from a behavioral and neural perspective. This course is intended for upper level undergraduate and graduate students.

578. (BIOL488) Advance Topics in Behavioral Genetics. (J) Ted Abel, Maja Bucan, Robert Schultz.

This course focuses on the use of genetic techniques to study the molecular and cellular bases of behavior. Particular emphasis will be given to the role of genetic approaches in understanding the biological processes underlying learning, memory storage, circadian rhythms, and drug abuse. Reverse genetic approaches utilizing gene knockout and transgenic technology, as well as forward genetic approaches using mutagenesis and quantitative genetic techniques, will be discussed.

582. (PHRM540, PSYC605) Behavioral Neuropharmacology. (J)

SM 583. (PSYC745) Seminar FMRI Data Analysis. (C) Seminar FMRI Data Analysis.

Seminar FMRI Data Analysis.

584. Neurobiology of Sleep and Circadian Rhythms. (H) Allan Pack, David Raizen.

The objectives of this course are: to discuss and evaluate mechanisms controlling sleep and circadian rhythms; to survey novel approaches to investigations in these areas; indicate the clinical relevance of these ideas where possible. About half the course consists of core lectures on basic rhythms, sleep, and their neural substrates. The rest of the lectures are devoted to special topics which change from year to year.

587. Neurobiology of Disease. (J) Marc Dichter. Prerequisite(s): Working knowledge of biology and chemistry. Corequisite(s): Permission of course director.

This course is designed to familiarize neuroscientists with basic information about a number of important neurological and psychiatric disease, focusing on a relatively brief clinical description of the condition and a more in depth discussion of what is currently understood about the basic pathobiology of the disorder.

The course is divided into two parts: on Tuesday afternoons there will be a formal didactic teaching session. The first part of each lecture (1/2 hour to 1 hour) will be devoted to a discussion of the disease in question and the second part will consist of one or two student presentations (in lieu of a paper or exam) reviewing in depth one critical neuroscience component of the disease. Each student will work with the course director or an assigned faculty member to develop her/his lecture. On Thursday afternoons, a faculty member will

present a research seminar or chalk talk describing the research she or he is conducting in that particular disease. Papers will be provided before the seminar so the students will be familiar with the research. It is expected that having a research seminar given after the introductory lecture will allow the students to become familiar in depth with at least one approach to each disease.

594. (BIBB585, PHYS585, PSYC539) Theoretical and Computational Neuroscience. (B) Vijay

Balasubramanian. Prerequisite(s): Previous coursework in physiology and in differential equations and some familiarity with computers, or instructor's permission.

Theoretical studies of neural function from the molecular to the cognitive level. Emphasis on organization and function of neural maps, synaptic plasticity, vision, and recent neural network models of higher brain functions and on neurobiological problems that are well suited to computational study.

597. (CAMB597) Neural Development, Regeneration and Repair. (A) Greg Bashaw, Michael Granato.

The goal of this course is to examine the principles underlying nervous system development and to appreciate how understanding the molecular mechanisms that govern development can be used to inform approaches to promote regeneration and repair. This is not a survey course. Rather, the course will focus on selected topics, for which we will discuss the genetic, molecular and cellular strategies employed to study these problems in different model organisms. Emphasis is on how to interpret and critically evaluate experimental data. Each class is 1.5 hours in length. During the first hour, an assigned paper will be discussed in detail. During the last 20-30 minutes, faculty will introduce methods, concepts, background and information pertinent to the paper that will be discussed at the following meeting. Topics for Spring 2014 will include: 1) Neural specification, diversification and the use of Stem Cells for neural replacement and repair, 2) Axon guidance at the midline and regeneration in spinal cord, 3) Neuronal tiling, self-avoidance and Wallerian degeneration, 4) Development of olfactory circuits and 5) Synapse formation, positioning and synaptic partner choice. There are no exams, but each student will submit two short (two page) research proposals related to the topics presented.

598. Advanced Systems Neuroscience. (I) Marc Schmidt, Long Ding. Prerequisite(s): Core III or Permission of course director.

How do we perceive the external world with different senses? How do we use our knowledge of the world to make decisions that benefit us? How do we transform these decisions into actions? How do we improve the execution of the actions themselves? Most importantly, from a neuroscience perspective, how does our brain do it? These are some of the fundamental questions in neuroscience. The Advanced Systems Neuroscience course explores these questions with two focuses: 1) what are our current best guesses? 2) what are the strategies/techniques used in systems neuroscience that have proven successful in improving our guesses? The course will follow a general sensory-decisionmaking motor theme, with lectures, presentations of research articles by students and presentations of experiment proposals by students. Lectures by faculty members will review leading hypotheses in particular topics and illustrate key experiments/results that support those hypotheses; paper presentations by students will facilitate more detailed understanding of how studies were constructed and how results were obtained and interpreted; experiment proposals by students (with faculty mentors) will serve as exercises for the students to develop critical skills in designing experiments and writing proposals.

SM 600. Topics in Neurobiology of Disease 001: Neurodegenerative Diseases.

615. (BMB 518, CAMB615) Protein Conformational Diseases. (I) Yair Argon, Harry Ischiropoulos.

Protein misfolding and aggregation has been associated with over 40 human diseases, including Alzheimer's disease, Parkinsons disease, amyotrophic lateralsclerosis, prion diseases, alpha (1)-antitrypsin deficiency, inclusion body myopathy, and systemic amyloidoses. This course will include lectures, directed readings and student presentations, to cover seminal and current papers on the cell biology of conformational diseases including topics such as protein folding and misfolding, protein degradation pathways, effects of protein aggregation on cell function, model systems to study protein aggregation and novel approaches to prevent protein aggregation.

618. Recovery After Neural Injury. (K) Akiva Cohen.

The human nervous system is subject to several types of injury, (traumatic, ischemic, epileptic, demyelinating and/or inflammatory) that cause serious functional deficits. The mechanisms used by the central and peripheral nervous systems for functional recovery from these injuries will be described in this course. The molecular and cellular pathobiology of CNS injury will be reviewed and methods to enhance functional recovery will be discussed in detail. These include the limitation of secondary neuronal damage by pharmacological manipulations (neuroprotection), the promotion of regeneration, and plasticity, the application of bioengineering strategies, and the use of behavioral rehabilitative approaches. Course Format: a combination of lecture, journal club style student presentations and classroom discussion.

SM 695. Scientific Writing. (B) Alice Chen-Plotkin, Joshua Ian Gold. Prerequisite(s): NGG Pre-candidacy exam students only.

This 7-class course is designed to introduce students to basic scientific writing skills and is timed for second year graduate students preparing for qualifying examinations. Participants will review the general principles of clear, persuasive writing, and will apply these principles to writing for a scientific audience. Particular emphasis will be placed on conveying the significance of your research, outlining the aims, and discussing the results for scientific papers and grant proposals. The course will also provide an overview of the structure and style of research grant proposals and scientific manuscripts. Classes are highly interactive, and the majority of class time will be spent discussing student scientific writing. The goal of the course is to encourage active and open interaction among students. Ideal endpoints include improved self-editing, and development of effective strategies for offering and receiving editorial recommendations among peers.

SM 706. (BIBB473, PSYC473) Neuroeconomics. (C)

799. Independent Study. (C)

990. Master's Thesis. (M)

NURSING (NU) {NURS}

L/R 061. Biologically-Based Chemistry. (A)

Lafferty-Della Valle.
Prerequisite(s): One year of high school general chemistry or its equivalent. 0.5 course units.

A contextual approach will be used in studying the concepts in General, Organic and Biological Chemistry that are foundational to an understanding of normal cellular processes. Topics that will be covered include measurements, atomic structure, bonding, chemical reactions, properties of gases and liquids, solutions, equilibrium, acids and bases, pH, buffers, nuclear chemistry, nomenclature and properties of the main organic functional groups, and the structures and function of carbohydrates, proteins and lipids.

L/R 062. Cell Biology. (A)

Hayes, M.; Lafferty-Della Valle. 0.5 course units.

This course will include the major topics of cell biology and microbiology that are foundational for an understanding of normal and pathological cellular processes. Topics will include the study of prokaryotic and eukaryotic cell structures and functions, the main biological molecules, membrane transport, cellular communications, the flow of genetic information, cell division, and cellular metabolism. The context for this course will be the application of cell biology to understanding the cellular basis of human diseases and the role of genetics and genomics in health and disease processes.

L/R 063. Microbiology. (A)

Johnson.
Prerequisite(s): NURS 061; NURS 062. 0.5 course units.

This course will focus on the role of microorganisms in human health and infectious diseases. It will include a description of the main types of microorganisms, how they are identified, their growth requirements, the role of the immune system in controlling infections, the control of animal parasites including viruses, bacteria and fungi and host - microbe interactions.

065. Fundamentals of Nutrition. (B)

Compher; Dolan; Caspar-Clark.
Prerequisite(s): NURS 061; NURS 062 (or equivalent Science Sequence Courses).

Essentials of normal nutrition and their relationships to the health of individuals and families. These concepts serve as a basis for the development of an understanding of the therapeutic application

of dietary principles and the nurse's role and responsibility in this facet of patient care.

SM 098. Sexual Health Promotion & Risk Reduction in West Philadelphia: A Seminar on Urban Campus/Community Norms. (B)

Jemmot. Prerequisite(s): Junior or Senior academic standing. Satisfies Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

This course is a unique combination of hands-on research, teaching, and service to the West Philadelphia community. Students research sexual risk behaviors and risk reduction for HIV and FSTI's in the West Philadelphia community, both on and off Penn's campus, and make concrete recommendations for interventions to promote sexual health & reduce risks for infection based on their findings.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

L/R 101. The Nature of Nursing Practice. (A)

Kutney-Lee; Brooks-Carthon; Wiltse Nicely. 0.5 course units.

This course facilitates students' ability to conceptualize the experiences of individuals, families, communities, and populations living with health and illness. It emphasizes the integration of knowledge from other disciplines and of nursing science as the basis for practice. The course introduces the four core themes of the undergraduate nursing program: engagement, inquiry, judgment, and voice and examines how the themes are used to characterize the nature of nursing practice.

L/R 102. Situating the Practice of Nursing. (B)

Kutney-Lee; Brooks-Carthon; Kaufman; Brewer. Prerequisite(s): NURS 101. 0.5 course units.

This course emphasizes not only how nursing is practiced, but also where it is practiced. The course further explores the four core themes of engagement, inquiry, judgment, and voice as it provides guided observational experiences in a wide variety of settings. These experiences help the student to discover what is not known and what is subsequently necessary to know. These experiences also explore the place of the natural and social sciences and the arts and humanities in nursing practice. This course also will highlight the relationships between and among members of the interprofessional team and families and patients. NURS 102 fosters development of the professional role and sets the stage for life-long learning.

L/R 103. Psychological and Social Diversity in Health and Wellness. (A)

Connolly; Lewis, L.; George.
Prerequisite(s): NURS 101. Offered in Summer for Accelerated BSN Program.

This course explores and integrates the intersection of psychological, cognitive, and social development with the lived experiences of individuals, families, and communities across the lifespan in order to conduct socially contextualized health assessments and health teaching. Extant theories will be critically analyzed and examined with respect to issues of health care access, health history, health promotion, and issues of equity and diversity from a life-course perspective. This knowledge will be synthesized and integrated with the development of the student's communication skills and interviewing processes necessary to develop socially attuned health history and teaching that promote psychological well being and healthy lifestyles. Simulated and observational experiences provide students with opportunities to acquire and apply knowledge necessary for conducting a comprehensive health history of an individual situated within a diverse community. They also provide opportunities to develop prioritized health teaching plans in partnership with that individual.

112. Nutrition: Science & Applications. (C)

DeJonghe; Hayes. For Non-Nursing Majors.

An overview of the scientific foundations of nutrition. The focus is on the functions, food sources and metabolism of carbohydrate, fat, protein, vitamins and minerals. Effects of deficiency and excess are discussed and dietary recommendations for disease prevention are emphasized. Current issues and controversies are highlighted. Students will analyze their own dietary intakes and develop plans for future actions.

L/L 131. Human Anatomy and Physiology - Part A. (B)

Scanga.
Prerequisite(s): NURS 61 and NURS 62 (or equivalent College Level Chemistry and Biology). 4 h. lec. 2 h. lab. \$100 lab fee.

The structural and functional organization of the human organism is presented, along with the fundamentals of developmental anatomy and embryology. Histologic and gross anatomical features of selected organ systems are related to the physiologic and biochemical mechanisms which enable the human body to maintain homeostasis in an ever-changing environment.

L/L 132. Human Anatomy and Physiology - Part B. (A) Scanga.

Prerequisite(s): NURS 131. 4 h. lec. 2 h. lab. \$100 lab fee.

The structural and functional organization of the human organism is presented, along with the fundamentals of developmental anatomy and embryology. Histologic and gross anatomical features of each organ system are related to the physiologic and biochemical mechanisms which enable the human body to maintain homeostasis in an ever-changing environment. Basic concepts of pathophysiology are introduced and applied to certain clinical disorders.

L/R 159. PATHWAYS TO PRACTICE.**L/L 160. Physical Assessment. (L)**

Staff. Prerequisite(s): Matriculation in the Accelerated BSN Nursing Program. For Students in Accelerated BSN Nursing Program Only.

This is a laboratory course designed to help beginning nursing students to develop competence in the process of physical assessment. Students engage in actual practice of physical assessment with fellow students as their 'patient' subject. A blending of instructor demonstration and supervision of physical examination practice sessions is used in the learning laboratory setting. Students prepare via self-learning activities with a variety of supplied resources (readings, videotapes, computer programs) and have the opportunity to refine their skill through faculty-supervised practice sessions. Procedural skills that correlate with the presentations of physiologic system assessment are included.

162. Pathophysiology, Pharmacology, and Therapeutics. (A)

Boullata. Prerequisite(s): NURS 215. For Students in Accelerated BSN Nursing Program Only.

Pathophysiologic concepts and processes are introduced with major emphasis on commonly occurring acute and chronic illnesses and their therapeutic interventions. Major classes of drugs that are used to support organ function are explored. The physiological and pathophysiological rationale for each drug indication, mechanisms of drug action, individualized dosing implications, and adverse drug events will be explored for prototypical agents used in the selected cases. The course will enhance the student's comprehension of the scientific complexity of therapeutic interventions in various conditions and will build upon the foundational sciences.

L/L 163. Integrated Anatomy, Physiology, and Physical Assessment I. (B)

Scanga; Quigley. Prerequisite(s): NURS 061; NURS 062; NURS 063; (or equivalent Science Sequence Courses). 2.0 course units.

This is the first part of a two-semester course designed to provide a comprehensive study of the structure and function of the human body along with essential embryology and maturational physiology. Histological and gross anatomical features of selected organ systems are related to the physiologic and biochemical mechanisms that enable the human body to maintain homeostasis. Within each system, deviations from normal are considered to situate the student's understanding of health problems and to foster an appreciation for the complexity of the human organism. Integrated into each topic are the correlated physical assessment parameters and related procedural skills. Laboratory exercises and case study analysis provide a contextual base to acquire and use domain-specific knowledge of concern to the practice of nursing.

L/L 164. Integrated Human Anatomy, Physiology & Physical Assessment II. (A)

Scanga; Quigley. Prerequisite(s): NURS 163. 2.0 course units.

This is the second part of a two semester course designed to provide a comprehensive study of the structure and function of the human body along with essential embryology and maturational physiology. Histological and gross anatomical features of selected organ systems are related to the physiologic and biochemical mechanisms that enable the human body to maintain homeostasis. Within each system, deviations from normal are considered to situate the student's understanding of health problems and to foster an appreciation for the complexity of the human organism. Integrated laboratories and case studies provide a contextual base to acquire and use domain-specific knowledge that includes physical assessment, and procedural.

L/L 165. Integrated Pathophysiology, Pharmacology, and Therapeutics. (B)

Boullata. Prerequisite(s): NURS 164 (or Equivalent). 2.0 course units.

Pathophysiologic concepts and processes are introduced with major emphasis on commonly occurring acute and chronic illnesses and their therapeutic interventions. Major classes of drugs that are used to support organ function are explored. The physiological and pathophysiological

rationale for each drug indication, mechanisms of drug action, individualized dosing implications, and adverse drug events will be explored for prototypical agents used in the selected cases. The course will enhance the student's comprehension of the scientific complexity of therapeutic interventions in various conditions and will build upon the foundational sciences. Additionally the course will provide the student with sufficient scientific knowledge and skills to prepare administer and monitor drugs and therapies in a safe and effective manner.

L/L 215. Nursing of Women and Infants. (B)

Guidera; O'Hare; Hill-O'Neill. Prerequisite(s): NURS 101; NURS 102; NURS 103; NURS 164 (Traditional) or NURS 106 (Accelerated).

This course emphasizes the child-bearing cycle, and the related issues of maternal and infant mortality and morbidity. It also explores women and infant's health care and health promotion needs across the lifespan. It provides a global perspective, and uses the United Nations' Pillars of Safe Motherhood and World Health Organization's Millennium Development Goals as the vehicles to enable students to understand the interrelationships among issues of health and health promotion; social, economic, political and environmental contexts; and the care of women across the lifespan. Clinical experiences provide opportunities for students to understand the connections between the local and the global; to use their developing knowledge base to affect the health of women and their infants. Students will have opportunities for hospital-based care of child-bearing women and their infants. In addition, community-based experiences with individual women and with groups of women across the life cycle will be provided in order to enhance teaching, interviewing and assessment skills.

L/L 225. Pediatric Nursing. (C)

Hickerson. Prerequisite(s): NURS 215. Corequisite(s): NURS 235. Clinical 12 hours weekly and 2 hours Simulated Laboratory Weekly.

This course considers how nursing influences the health and healing capacities of infants, children, adolescents and their families. It focuses on the knowledge and skill acquisition needed to care for these patients at particular moments, across the continuum of care, and through transitions in an illness experience. It addresses pediatric nursing phenomena of concern and major final common pathways of pediatric illness from infancy through

adolescence using a developmental and systems approach. Emphasis is placed on family-centered care through transitions in the illness and recovery phases. The course emphasizes clinical reasoning; family centered strategies for optimizing health and maintaining individuality; promoting optimal developmental, physiological, and psychological functioning; and enhancing strengths within the context of family. Clinical experiences at various children's hospitals and simulation experiences provide sufficient opportunities for clinical reasoning, clinical care and knowledge integration.

230. Statistics for Research and Measurement. (A) Tulman.

This course examines statistical methods used by scientists in the analysis of research data. The fundamental theorem for this course is the "square root law" (central limit theorem). Students become literate in statistical terminology and symbols and knowledgeable of assumptions for statistical tests. Fundamental statistics include basic theorems and principles, sample, population and data distributions, measures of central tendency, correlational techniques, and commonly used parametric and nonparametric statistical tests. Parameters for inferential and descriptive statistics are examined as the basis for explaining the results from research studies. Students apply chance models in estimating confidence intervals of percentages and means, and in hypothesis testing. This content is taught in the context of nursing research and measurement of nursing phenomena. Examination of research publications enable students to apply their knowledge to reading and understanding data analyses used in studies. Students evaluate tables and graphs as ways to summarize research findings. Course content prepares students to examine statistical and clinical significance of research findings.

L/L 235. Psychiatric Nursing. (C) Staff. Prerequisite(s): NURS 215. Corequisite(s): NURS 225. Clinical 12 hours weekly and 2 hours Simulated Laboratory Weekly.

This course examines how nursing influences the health and healing capacities of individuals and families experiencing severe psychiatric distress. It focuses on the knowledge and skill acquisition needed to care for these patients at particular moments, across the continuum of care, and through transitions in an illness experience. The course addresses nursing phenomena of concern related to the meanings of an illness experience, the development of healing relationships with or within

individuals, families, and groups, and on the advanced communication strategies needed to engage individual and families in mental health promotion strategies. It also provides the tools to enable students to construct effective treatment groups with patients; work groups with disciplinary and inter-professional colleagues; and to understand the healing dimensions of environments. Clinical and simulation experiences provide sufficient opportunities for clinical reasoning, clinical care and clinically situated knowledge integration.

L/L 245. Nursing of Young and Middle Aged Adults. (C) Walsh-Brennan. Prerequisite(s): NURS 215. Corequisite(s): NURS 255. Clinical 12 hours weekly and 2 hours Simulated Laboratory Weekly.

This course considers how nursing influences the health and healing capacities of young and middle aged adults who experience functional status impairments as a result of serious illness or injury. It focuses on the knowledge and skill acquisition needed to care for these patients at particular moments, across the continuum of care, and through transitions in an illness experience. It addresses nursing phenomena of concern, including risk factors for illness or injury, strategies to overcome barriers and support personal health resources, alleviate suffering and reduce the impact of illness or injury on the functioning of the person. Content and clinical experiences integrate developmental and role issues; policy, cultural and ethical considerations. Clinical experiences in acute care hospital units and simulation experiences provide opportunities for clinical reasoning, clinical care, and knowledge integration.

L/L 255. Nursing of Older Adults. (C) Matura. Prerequisite(s): NURS 215. Corequisite(s): NURS 245. Clinical 12 hours weekly and 2 hours Simulated Laboratory Weekly.

This course considers how nursing influences the health and healing capacities of older adults. It focuses on the knowledge and skill acquisition needed to care for these patients at particular moments, across the continuum of care, and through transitions in an illness experience. It addresses nursing phenomena of concern including the unique set of principles and body of knowledge and skills necessary to the practice of nursing with older adults. Students are provided with the theoretical background necessary to understand health system issues affecting older adults. Students will attain the knowledge necessary to complete a comprehensive

assessment of the older adult's physical, functional, psychosocial, and cognitive capacities. Common problems associated with cardiovascular, respiratory, neurological, musculoskeletal, sensory, and genitourinary systems that affect older adults will be discussed. In addition, principles of continuity of care, rehabilitation, nutritional and pharmacodynamic changes, cultural diversity and ethics will be integrated throughout the course. Clinical experiences in acute care hospitals and simulation experiences provide sufficient opportunities for clinical reasoning, clinical care, and knowledge integration.

Special emphasis is placed on transitional care for older adults across the health care continuum.

299. Independent Study in Nursing. (C) Prerequisite(s): Permission of instructor and NURS 106.

An opportunity to develop and implement an individual plan of study under faculty guidance.

303. (GSWS303, HSOC332, NURS503) Contemporary Issues in Human Sexuality and Health. (B) Stevens.

Course content emphasizes theories of sexual development and factors influencing sexual behavior within the continuum of health and illness. Common sexual practices of people are studied within the context of lifestyle and situational life crises. Concepts of normal sexual function and dysfunction are examined. Contemporary sexual issues are explored.

304. Contemporary Issues in Global Women's Health. (B) Im.

Prerequisite(s): Nursing Students must have completed NURS 215. Freshmen and Sophomores need Instructor Permission.

This undergraduate elective course will provide an introduction to contemporary issues in global women's health and multiple theoretical perspectives related to global women's health. This course will examine and analyze various women's health issues across the globe within historical, social, cultural, economic, political and environmental contexts. This course will have particular emphasis on intensive analyses of gender equity and cultural sensitivity issues in providing appropriate and adequate care for women across the globe.

312. Nutritional Aspects of Disease. (B) Hayes, M. Prerequisite(s): NURS 112.

This course provides an advanced understanding of the role of nutrition in

integrated biological systems. Students will develop a rigorous comprehension of major clinical disorders, including the underlying pathophysiology and conditions that are affected by nutrition and how optimization of nutritional variables may modulate these processes. A critical overview of the role of nutrition in disease prevention, management and treatment, and in health maintenance will be emphasized throughout the course.

313. (NURS513) Obesity and Society. (A) Compher.

This course will examine obesity from scientific, cultural, psychological, and economic perspectives. The complex matrix of factors that contribute to obesity and established treatment options will be explored.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

315. (NURS515) Sociocultural Influences on Health. (B) Wall. Foundational Course for Minor in Multicultural/Global Health Care.

This course is intended for students interested in U.S./Global Healthcare. It includes lectures, discussions, readings, and written assignments focused on various social, cultural, and economic factors that impact the health and illness perceptions and behaviors of various ethnic and minority groups. In particular, it focuses on how culture affects health and disease, and how health and disease affect culture.

This course takes a critical approach to knowledge development by scrutinizing values, theories, assumptions, and practices cross culturally. It relies upon a range of interdisciplinary approaches to analyze how disease is diagnosed, treated, and experienced differently in various cultural contexts. At the same time, students will have the opportunity to examine and critique cultural assumptions and theories, the shifting nature of cultures, the situational use of cultural traditions, and the ethnocentrism of contemporary Western health care. Special attention is given to the influence of race, class, gender, religious, and spiritual ideas about health and illness.

316. (NURS516) International Nutrition: Political Economy of World Hunger. (B) Chrzan.

Prerequisite(s): Junior-year or higher; at least one background course in nutrition, anthropology, sociology or economics.

A detailed consideration of the nature, consequences, and causes of hunger and undernutrition internationally. Approaches

are explored to bringing about change, and to formulating and implementing policies and programs at international, national, and local levels, designed to alleviate hunger and under-nutrition.

SM 318. (GSWS318, HSOC341) Race, Gender, Class and the History of American Health Care. (A) Fairman.

For Benjamin Franklin Scholars & Nursing Honors Students.

This multidisciplinary course surveys the history of American health care through the multiple perspectives of race, gender, and class, and grounds the discussions in contemporary health issues. It emphasizes the links between the past and present, using not only primary documents but materials from disciplines such as literature, art, sociology, and feminist studies that relate both closely and tangentially to the health professions and health care issues. Discussions will surround gender, class-based, ethnic, and racial ideas about the construction of disease, health and illness; the development of health care institutions; the interplay between religion and science; the experiences of patients and providers; and the response to disasters and epidemics.

Skills for document analysis and critique are built into the course as is the contextual foundation for understanding the history of health care. This course satisfies both the Society & Social Structures and the Histories & Traditions sectors for the Nursing Class of 2012 and beyond.

319. (NURS519) Etiology and Treatment of Contemporary Chronic Diseases in America: Focus on Obesity and Cancer. (B) Glanz; Jacobs, L.; Sarwer.

This course will focus on two of the major public health problems in the United States—obesity and cancer. These diseases will be considered from a variety of perspectives: epidemiological, environmental, physiological and behavioral. In addition, the course will focus on the range of interventions being developed to treat as well as prevent both diseases.

SM 324. (GSWS324, HSOC324) Children's Health in the United States, 1800-2000. (A) Connolly. For Benjamin Franklin Scholars & Nursing Honors Students.

This course explores the impact of historical ideas, events, and actors pertaining to the history of children's health care in the United States. Emphasis is placed on tracing the origins and evolution of issues that have salience for twenty-first

century children's health care policy and the delivery of care.

This course satisfies the History & Traditions Sector for Nursing Class of 2012 and Beyond.

330. Theoretical Foundations of Health Care Ethics. (C) Perlman; Ulrich.

The theoretical foundations of health care ethics including definitions of ethics, history of bioethics and nursing ethics, and the influence of religion, psychology of moral development and philosophy in the development of ethical theory. Nursing code of ethics, changing ideas in ethics, and discussion of the developing profession of nursing are included.

L/R 331. (NURS531) Forensic Mental Health. (A) Brown, K.; Sabella.

Forensic mental health is the interface between the law and mental health. This course examines the components of human behavior that bring people into a judicial setting. Content will cover: criminal personalities, forensic interview, and the role of forensic psychiatry. Domestic violence offenders, sex offenders, stalkers, gang members, and offenders who commit homicide will be discussed. Definitions and dynamics of criminal motherhood and the psychodynamics of violent juvenile offenders will be presented. Use of the internet by offenders will also be discussed. This course also offers a field experience in which student's interview incarcerated individuals.

As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.

332. (NURS534) Forensic Science I. (B) Cronin, G.

This course discusses the interface of law and science. Forensic science is the application of scientific principles in the legal arena. This course examines the contribution of forensic science to criminal and civil investigation. Crime scene analysis is accomplished via disciplines within forensic science. The role of medical examiner, the structure and function of crime laboratories, death investigation and the role of health care personnel in forensic cases is discussed.

As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.

333. (NURS533) Victimology. (C) Cronin G.

This course examines the wide range of victimization experiences from the perspective of the victim, their families and

society. Crimes to be studied include workplace violence, corporate crime, robbery, burglary, assault, rape, stalking, domestic violence, homicide, suicide, elderly abuse and child sexual abuse and exploitation. The role of the medical examiner, health care providers and the FBI as they relate to victims of crime will be discussed. Emphasis will be given to exploring the elements of each crime and response patterns to victimizations. Services available to victims of crime will be discussed.

As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.

L/R 334. (NURS540) Public Policy and the Nation's Health. (B) Sochalski.

This course examines health care and social policy from domestic and international perspectives. It is designed to engage undergraduate students in critical thinking about health policy issues as they affect our health care, employment, taxes, and social investments. The current national debate on health care reform is used as a frame of reference for examining the strengths and weaknesses of health care services in the U.S. from the perspectives of patients/families, health professionals, health services providers, insurers, employers, and public policy makers, and the pros and cons of a range of prescriptions for system improvement from across the political spectrum. About a third of the course focuses more specifically on global public health challenges and the policy strategies for reducing health disparities worldwide.

L/R 335. (ANTH335, ANTH635, NURS635) Global Food Security for Ten Billion. (B) Spooner; Compher; Muecke; Chrzan. Cross Currents Course.

This is an interdisciplinary course on the problems of food demand and consumption, production and supply in our increasingly globalized and urbanizing world. Special attention will be given to the intersections of current technologies of food production, current nutritional problems, environmental change and resource degradation, and the changing quality of human social life under globalization. Where and how will sufficient nutritious food be produced sustainably and how can the politics and economics of equitable distribution in such large urban populations be achieved?

336. (NURS536) Current Topics in Pain. (A) Polomano. Prerequisite(s):

Junior or senior status in the nursing curriculum or by permission of the instructor.

This course focuses on biopsychosocial aspects of the pain experience and interpatient differences and how these form the basis for understanding pain perception, physiological and behavioral reactions and response to pain interventions. Content includes an integrated overview of the neurobiology of pain, measurement pain, pharmacological and nonpharmacological approaches for acute and chronic pain syndromes, health policy and care delivery models for improving pain assessment and management. Peripheral processing, neuroanatomical pathways and central integrating mechanisms involved in nociception and pain are examined. The roles of individual biochemical mediators, neurotransmitters and neuromodulators are examined and linked to the effectiveness of pharmacological and alternative methods for pain control. The challenges of pain assessment and pain management in special clinical populations are considered. Relevant topics of special interest to course participants will be introduced for class discussion in the form of student presentations.

SM 338. (GSWS338, HSOC338, NURS638, NURS838) "Sweet Little Old Ladies and Sandwiched Daughters": Social Images and Issues in our Aging Society. (J)

Kagan. Third or fourth year undergraduate students in any major BFS, JWS, and NUHP students.

This course is an intensive and focused introduction to social gerontology as a trans-disciplinary lens through which to examine aspects of social structure, actions, and consequences in an aging society. A variety of sources are employed to introduce students from any field focused on human behavior and interaction to classical notions of social gerontology and current scholarly inquiry in gerontology. Field work in the tradition of thick description creates a mechanism to engage students in newly gerontological understandings of their life worlds and daily interactions. Weekly field work, observing aspects of age and representations of aging and being old in every day experiences forms, is juxtaposed against close critical readings of classical works in social gerontology and current research literature as well as viewings of film and readings of popular literature as the basis for student analysis. Student participation in the seminar demands

careful scrutiny and critical synthesis of disparate intellectual, cultural, and social perspectives using readings and field work and creation of oral and written arguments that extend understandings of the issues at hand in new and substantive ways.

Emphasis is placed on analysis of field work and literature through a series of media reports and a final term paper.

Creative approaches to identifying literature, analyzing field work and representing critique are encouraged. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

SM 339. (GSWS339, HSOC339) "Aging, Beauty, and Sexuality": Psychological Gerontology in the 21st Century. (K) Kagan. Third or fourth year undergraduate students in any major BFS, JWS, and NUHP students.

This honors course examines the psychological gerontology of advancing age and identity in the 21st century. Examination emphasizes gendered notions of beauty and sexuality in ageing and the life span to foster discourse around historical notions and images of beauty and ugliness in late life in contrast to contemporary messages of attractiveness and age represented by both women and men. The course is designed to create intellectual foundations as place from which to critique socially mediated and personally conveyed images and messages from a variety of media and their influence on intrapersonal and interpersonal constructions and social processes. Contemporary and historical ideas encompassing stereotypical and idealized views of the older person are employed to reflect dialogue around readings and field work.

Classical and contemporary scholarship from gerontology, anthropology, biomedicine and surgery, nursing, and marketing among other disciplines as well as select lay literature are critiqued and compared with interpretation of field work to build understandings of diverse individual, familial, and cultural impressions of aging and identity. Skills for participant observer field work in the tradition of thick description are built to allow reflection and analysis of discourse about aging, beauty, sexuality, and other relevant aspects of human identity. This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

SM 343. Global Engagement Seminar Environmental Health issues.

344. (NURS544) Etiology and Treatment of Contemporary Chronic Diseases in America: Focus on Obesity and Cancer. (B) Glanz; Sarwer; Jacobs, L.

This course will focus on two of the major public health problems in the United States - obesity and cancer. These diseases will be considered from a variety of perspectives: epidemiological, environmental, physiological and behavioral. In addition, the course will focus on the range of interventions being developed to treat as well as prevent both diseases.

355. Case Study: Self-care of Chronic Illness. (B) Riegel.

Prerequisite(s): NURS 215. 2 hour seminar; 1 hour fieldwork / week.

This case study introduces the role of self-care by patients with chronic illness. We will discuss the history, definitions, predictors, and outcomes of self-care in various chronically ill populations. A focus of discussion will be an in depth exploration of the factors that influence self-care. Understanding these factors will prepare nurses for their role in promoting patient self-care. Fieldwork experiences will enable students to gain practical experience in engaging chronically ill individuals in self-care.

356. Case Study: Culture of Birth. (B) McCool. Prerequisite(s): NURS 215, 225 or Permission of Instructor.

This course will explore the cultural context of birth and the activities of women and professionals and/or attendants in meeting the health care needs of pregnant women. The history of caring for women at birth, international health care, cultural mores/societal values, place of birth, psychosocial factors, ethical decision-making and the role of technology are content areas that will be discussed.

358. Case Study: Nurses and the Child Welfare System. (A) Connolly.

Prerequisite(s): NURS 165; NURS 215.

Building on knowledge and skill acquired through undergraduate nursing courses, this case study offers nursing majors an in depth and interprofessional opportunity to study research, policy, and practice-based issues in children and families involved with the child welfare system. Special emphasis is placed on the role of the nurse in the child welfare system. Fieldwork experiences will enable students to gain practical experience regarding the needs of children and families with an emphasis on a consideration of how to achieve partnership

and create alliances with parents and youngsters.

359. Case Study: Quality Care Challenges in an Evolving Health Care Market. (B) Pinola; Sparrow.

Prerequisite(s): NURS 104, 106.

Quality care is an issue for consumers, providers, purchasers, and policy makers. This case study examines the multiple challenges that surround the quality of health care in the evolving United States health care marketplace. Through classroom discussion and special project experience, the student will become familiar with the concept of health care quality and approaches to the measurement and management of quality. Using Donabedian's construct of structure, process and outcomes, strategies to improve quality while containing or reducing costs are reviewed, including the contributions of clinical practice guidelines. The evolving dominant structures for providing health care services, managed care and integrated delivery systems, and their approaches to quality management and reporting will be explored.

360. Case Study: Nursing Practice with HIV+ Patients. (A) Vincent.

Prerequisite(s): NURS 104, 106.

This course is directed at the need to increase nursing majors knowledge and clinical expertise in the care of persons with HIV/AIDS. Hands on clinical practice with nurses who are AIDS experts will be combined with seminars that provide epidemiologic, clinical assessment, infection control, symptom management, patient teaching, psychosocial, ethical, cultural, political, and policy information.

361. Case Study: Breast Feeding & Human Lactation. (A) Spatz.

Prerequisite(s): NURS 104, 106.

Human milk is recognized universally as the optimal diet for newborn infants. The health benefits of breastfeeding are so significant that a National Health Objective set forth by the Surgeon General of the United States for the year 2010 is to increase the proportion of mothers who breastfeed their babies in the postpartum period. Through classroom and clinical experiences, this course will provide an in depth examination of the anatomy and physiology of lactation, essential aspects of establishing and maintaining lactation, and the nurses' role in counseling the breastfeeding family. Emphasis will be placed on current research findings in the content area.

363. Case Study: Aggressive Behavior in Healthcare: Assessment Prevention and Treatment. (B)

Coleman. Prerequisite(s): NURS 104, 106.

The escalating incidence and prevalence of aggression in the health care setting requires that providers acquire a new set of pragmatic competencies for managing its complex sequelae. This course presents theoretical frameworks for understanding, predicting, preventing and responding to aggressive behaviors across the life span. Historical, bio-behavioral, social, and cultural explanations for aggression will be synthesized and analyzed within the context of multiple points of entry into the health care system across clinical settings. Personal self-awareness, debriefing, and stress management techniques exemplify techniques to prevent untoward consequences in providers. This course also uses exemplars and a range of experiential learning strategies, including skill development, situation analysis, concept mapping, unfolding case studies and cooperative learning, to examine the assessment, prevention, treatment, and response to aggressive behavior in patients and management of its consequences in self and others.

364. Case Study: Cancer. (B) Hollis.

Prerequisite(s): NURS 104, 106.

This elective case study offers students the opportunity to learn about the etiology, diagnosis, and management of cancer across the lifespan. Building on existing clinical knowledge and skills, students will explore cancer care from the perspectives of prevention, early detection, treatment, survivorship, and death. Observational clinical experiences and selected case studies will enhance students' understanding of patients' and families' cancer experience.

365. Case Study: Case Analysis in Clinical Nutrition. (B) Dolan.

Prerequisite(s): NURS 104, 106.

This course is designed for present and future nurse professionals who wish to increase their knowledge of nutrition and expertise and application of knowledge to achieve optimal health of clients and themselves. Principles of medical nutrition therapy in health care delivery are emphasized in periods of physiologic stress and metabolic alterations. Individual nutrient requirements are considered from pathophysiologic and iatrogenic influences on nutritional status. Nutritional considerations for disease states will be explored through epidemiological, prevalence, incidence, treatment and research data. Understanding application

of medical nutrition therapy are included through case analysis and field experiences

366. (NURS566) Case Study: Living with Dementia. (M) Strumpf; Kagan; Cotter. Prerequisite(s): NURS 104, 106 or Permission from Instructor.

Living with Dementia provides a two fold experience: guided observation of an individual with dementia and a seminar series on dementia - neuropathology, assessment, care and treatment. Students will interact with a person with AD and his/her caregiver. The goal is to understand the demented individual's functional abilities and impact of environment on performance and behavior. A further goal is to develop an appreciation of the primary caregiver's role and the strengths and limitations of community support systems. Each team of two to three will be assigned a family unit for study. In so far as possible, teams will be interdisciplinary.

367. (NURS557) Case Study: Principles of Palliative Care. (A)

Ersek. Prerequisite(s): NURS 104, NURS 106.

This course prepares students to collaborate effectively with an interdisciplinary team in assessing patients and families, and planning and evaluating palliative and end of life care for diverse populations with progressive illness in multiple health care settings. Course content and assignments focus on the nurse's role in addressing the complex assessment and responses to the psychosocial and spiritual concerns of patients and caregivers across the trajectory of advanced illness.

368. (NURS550) Case Study: Home Health Care. (A) Doyle. Prerequisite(s): NURS 104, NURS 106.

This course examines the major aspects of home-based care across patients' life spans from acute to long term care. New trends, advances, and issues in home management of complex conditions, innovative delivery systems and legal, ethical and policy consideration will be explored.

375. Nutrition Throughout The Life Cycle. (I) Berman-Levine. Prerequisite(s): NURS 54, or NURS 112, comparable nutrition course, or approved introductory course.

Understanding and meeting nutritional needs from conception through adulthood will be addressed. Nutrition-related concerns at each stage of the lifecycle, including impact of lifestyle, education, economics and food behavior will be explored.

376. Issues in Nutrition, Exercise, and Fitness. (B) Compher; Dougherty.

An examination of the scientific basis for the relationship between nutrition, exercise and fitness. The principles of exercise science and their interaction with nutrition are explored in depth. The physiological and biochemical effects of training are examined in relation to sports performance and prevention of the chronic diseases prevalent in developed countries.

L/L 380. Nursing in the Community.

(A) Staff. Prerequisite(s): NURS 225; NURS 235; NURS 245; NURS 255. Clinical 16 hours Weekly and 2 hours Simulated Laboratory Weekly Also Offered Summer Session (12 Weeks).

This course considers how nursing influences the health and healing capacities of both communities as a whole (populations) and of groups, families, and individuals living within particular communities locally and globally. It addresses the complexity of nursing practice using a public health paradigm. It requires students to draw from prior class and clinical knowledge and skills and apply this practice base to communities across care settings, ages, and cultures with different experiences of equity and access to care. It provides the tools needed to engage in collaborative community work and to give voice to the community's strengths, needs, and goals. It also moves students from an individual and family focus to a population focus for health assessment and intervention. Students consider the science, policies, and resources that support public health, and community based and community-oriented care. Clinical and simulated experiences in community settings provide sufficient opportunities for clinical reasoning, clinical care and knowledge integration in community settings. Students will have opportunities to care for patients and populations within selected communities.

SM 386. Nursing Honors Research Project. (M) Kagan; McCauley, K.

Prerequisite(s): NURS 260 or NURS 637, NURS 385H. Enrollment in Nursing Undergraduate Honors Program Required.

This course is an advanced seminar for research and scholarship to be taken by honors students in nursing. Enrollment is concurrent with implementation of the individual student's honors project. Practical considerations in carrying out such a project, including scholarly approach and scientific integrity as well as scholarly writing and dissemination will be discussed and illustrated, using exemplars and student projects. The various phases of

students' projects will be used as launching points for discussions and to complement students' work with their faculty supervisors. Paths and planning for careers in nursing and related disciplines and the idea of scholarship and research trajectories will be developed throughout the course.

389. Research/Inquiry-Based Service Residency. (C) Curley; Leary, M.

Prerequisite(s): NURS 547. 0.5 course units.

This course is designed to facilitate students' intellectual curiosity and independence in exploring the research process relevant to an area of interest. Students expand their research knowledge base provided in NURS 230 and NURS 547 through a structured individualized faculty mentored experience based on specific learning objectives. Students identify a faculty advisor and, in collaboration with the advisor, define learning objectives to guide a plan of study. All research or inquiry residencies are under the guidance of a faculty member in the School of Nursing, but students may also interact with affiliated investigators and clinicians who contribute to and enrich the course. The residency offers students opportunities to experience at any level systematic methods for research, or service-based clinical inquiry or quality improvement.

This mentored residency can be fulfilled by one of the following options: * Research-based practicum in basic science, clinical research, nursing history, healthcare policy, ethics, or informatics. * Inquiry-based Service practicum such as conducting quality improvement procedures or program evaluations in an affiliated healthcare institution. * Taking one of the University's Academically Based Community Service (ABCS) courses with prior approval by the Steering Committee. * Individualized study abroad experience with prior approval by the Steering Committee.

SM 390. Leadership in the Complex Healthcare System. (C) Staff.

Prerequisite(s): NURS 380. Clinical 16 hours Weekly and 2 hours Simulated Laboratory Weekly.

This two-part course provides the didactic and clinical experiences in increasingly complex nursing care situations and environments which facilitate the students' transition to independent practice. In the lecture component, the focus is on the integration of knowledge and skill for nursing practice and develops the ability of students to see nursing practice as part of a

complex system. It examines systems thinking and complexity, development of a leadership role and skills, inter-professional communication and teamwork, and leading change in healthcare organizations. This course also examines the nurse's role in improvement science and patient care delivery, focusing on quality improvement processes, patient safety, nurse sensitive process and outcome metrics with micro-systems. This course also allows students to develop the capacity for clinical expertise, leadership, and for translating the science of the profession into practice. Students also are assigned to a seminar component that is correlated with their selected site for the specialty clinical practicum. This aspect of the course allows the student to develop additional expertise in a specialty area of practice and to develop competences specific to that population of patients.

These seminar components are adult health and illness; adult critical care, obstetrics/labor & delivery, psychiatric/mental health, and pediatrics. Advanced simulation experiences and extensive clinical practice in an area of the students' choice provide multiple opportunities to synthesize the multidimensional aspects of nursing, and provide the environment which facilitates transition to professional nursing practice. Students select from a variety of settings in which to refine their practice skills. Principles of leadership, accountability and change will be applied to clinical practice as the student begins to operationalize the professional nursing role. Emphasis is placed on the nurse as a knowledgeable provider of health care who is both a change agent and advocate.

399. Faculty Directed Research Practicum. (C)

Prerequisite(s): Permission of instructor and completion of a research course (NURS 260 or NURS 637).

SM 400. Advances In Health Systems Research And Analysis. (K)

Sochalski; McHugh, M. by Permission Only. Capstone Course for NURS/WH Joint Degree Students.

500. (PUBH502) Introduction to Principles and Methods of Epidemiology. (B)

Schmitz. Prerequisite(s): Elementary statistics.

This course provides an introduction to epidemiologic methods and overview of the role of epidemiology in studies of disease etiology and in the planning, delivery and evaluation of health services. The population-based approach to the collection

and analysis of health data will be emphasized throughout the course. Through textbook reading, problems sets, class discussion and review of the recent literature, students will become acquainted with the basic designs of epidemiologic studies in theory and in practice. Students will develop the basic skills necessary to use epidemiologic knowledge and methods as the basis for scientific public health practice.

503. (GSWS303, HSOC332, NURS303) Contemporary Issues in Human Sexuality and Health. (B)

Guidera; Villari. Junior and Senior undergraduates. Open to all graduate students.

Emphasizes the theories of sexual development and sexual behavior within the continuum of health and disease. Common sexual practices of people are studied in relation to life-style and/or situational life crisis. Contemporary issues in sexuality and health will be examined.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

509. The Medically Fragile Child. (L)

Deatrick. Summer Session II. This course is designed to assist prospective practitioners develop advanced skills in identifying the needs and interventions for medically fragile neonates, children and their families.

511. Loss, Grief and Bereavement. (L)

Sabella. Summer Session II. Loss, grief and bereavement are pervasive aspects of the human experience. The content of this course provides a basis both for personal development and professional growth. Through a series of seminars, key issues surrounding loss, death, dying, grief and bereavement will be examined.

513. (NURS313) Obesity and Society. (A)

Compher. Prerequisite(s): Undegraduates by permission of instructor.

This course will examine obesity from scientific, cultural, psychological, and economic perspectives. The complex matrix of factors that contribute to obesity and established treatment options will be explored.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

515. (NURS315) Sociocultural Influences on Health. (B)

Wall. This course is intended for students interested in U.S./Global Healthcare. It includes lectures, discussions, readings, and

written assignments focused on various social, cultural, and economic factors that impact the health and illness perceptions and behaviors of various ethnic and minority groups. In particular, it focuses on how culture affects health and disease, and how health and disease affect culture.

This course takes a critical approach to knowledge development by scrutinizing values, theories, assumptions, and practices cross culturally. It relies upon a range of interdisciplinary approaches to analyze how disease is diagnosed, treated, and experienced differently in various cultural contexts. At the same time, students will have the opportunity to examine and critique cultural assumptions and theories, the shifting nature of cultures, the situational use of cultural traditions, and the ethnocentrism of contemporary Western health care. Special attention is given to the influence of race, class, gender, religious, and spiritual ideas about health and illness.

516. (NURS316) International Nutrition: Political Economy of World Hunger. (B)

Chrzan. Graduate Students Only. A detailed consideration of the nature, consequences, and causes of hunger and undernutrition internationally. Approaches are explored to bringing about change, and to formulating and implementing policies and programs at international, national, and local levels, designed to alleviate hunger and under-nutrition.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

517. Advanced Nutrition and Metabolism. (B)

Compher. Prerequisite(s): Nurs 54 or Nurs 112 (Students with extensive background in life sciences by permission of faculty).

Essentials of nutritional biochemistry from the molecular level to the level of the whole human organism. Nutrient functions and inter-relationships are explored with attention to the association between nutrients and disease risk. Topics include energy metabolism and regulation of fat storage, new functions of vitamins and minerals, gene nutrient interactions and current research topics.

518. (GSWS518) Nursing and the Gendering of Health Care in the United States and Internationally, 1860-2000. (B)

Wall. This course examines changing ideas about the nature of health and illness; changing forms of health care delivery; changing experiences of women as providers and

patients; changing role expectations and realities for nurses; changing midwifery practice; and changing segmentation of the health care labor market by gender, class and race. It takes a gender perspective on all topics considered in the course. A comparative approach is used as national and international literature is considered. This focus is presented as one way of understanding the complex interrelationships among gender, class, and race in health care systems of the United States and countries abroad.

519. (NURS319) Etiology and Treatment of Contemporary Chronic Diseases in America: Focus on Obesity and Cancer. (A) Glanz; Jacobs, L.; Sarwer.

This course will focus on two of the major public health problems in the United States—obesity and cancer. These diseases will be considered from a variety of perspectives: epidemiological, environmental, physiological and behavioral. In addition, the course will focus on the range of interventions being developed to treat as well as prevent both diseases.

SM 521. Current Topics in Nutrition. (M) Compher.

The objective of the course is to integrate the nutrition knowledge obtained from previous course work in nutrition and provide the student the opportunity to explore, analyze and formulate implications of the research and related literature on a self-selected topic under the guidance of the faculty coordinator. Current topics and controversies in nutrition will be discussed weekly. Readings will be assigned in coordination with each discussion topic and students will be required to seek out other sources of information to add to the class discussion. Topics will change from year to year to reflect the most recent interests and issues.

523. Advanced Nutrition: Molecular Basis of Nutrition. Prerequisite(s): NURS 065 or 112. Essentials of nutritional biochemistry of macronutrient (protein, carbohydrate, lipid) metabolism from the molecular level to the level of the whole human organism. Linkages between energy and nitrogen balance and states of health and disease are examined. Topics include energy metabolic pathways, nutrient transportation, nutrient catabolism, nutrient anabolism, body composition, and biomarkers.

524. Advanced Human Nutrition and Micronutrient Metabolism.

Prerequisite(s): NURS 605 or NURS 112 or Special Permission. Essentials of vitamin and mineral digestion, absorption, metabolism, and function in humans during states of health and disease are examined. Linkages between key vitamins and their function in biological systems, such as bone health, energy metabolism, hematopoietic function, and immune function, are explored in depth. Topics include pertinent research methodologies, biomarkers, deficiency and toxicity states, and requirements across the life cycle.

525. Ethical Aspects of Health and Technology. (B) Ulrich.

Interdisciplinary approach to the study of the interface between ethics and law in the provision of health and illness care. This course draws upon the disciplines of philosophy, law, biomedical engineering and nursing in examining such concepts as the use/nonuse of biomedical technology, who and how one decides what shall be done for a given "patient," and the "rights" and responsibilities (accountability) of all persons involved in health/illness care decisions. The interplay of ethical theory, personal value systems, law and technology will be stressed throughout. Lectures, seminars and case studies will be used.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

526. Child and Adolescent Mental Health. (A) Brawner. Prerequisite(s):

Matriculation in a MSN Program or permission of instructors. Priority will be given to Psychiatric Mental Health NP students.

This course is designed to prepare advanced practice registered nurses to address mental health concerns of children, adolescents and their families from a bio-psycho-socio-cultural perspective. Prevention, assessment, and treatment of psychiatric disorders affecting children and adolescents in a variety of settings will be presented in the context of mental health, school and primary health care delivery systems. Students will explore both pharmacologic and nonpharmacologic treatment strategies, as well as methods to identify and implement evidence-based practice in child and adolescent populations. Mental health policy, as well as the unique needs of special populations (e.g., youth in the juvenile justice system) will also be discussed.

L/R 531. (NURS331) Forensic Mental Health. (A) Brown, K.

Forensic mental health is the interface between the law and mental health. This course examines the components of human behavior that bring people into a judicial setting. Content will cover: criminal personalities, forensic interview, and the role of forensic psychiatry. Domestic violence offenders, sex offenders, stalkers, gang members, and offenders who commit homicide will be discussed. Definitions and dynamics of criminal motherhood and the psychodynamics of violent juvenile offenders will be presented. Use of the internet by offenders will also be discussed. This course also offers a field experience in which student's interview incarcerated individuals.

As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.

532. Cognitive Behavior Strategies in Health Care. (B) Kuehlwein.

Cognitive therapy will be studied as it has been adapted to treat a broad spectrum of clinical disorders including depression, anxiety, phobias, substance, obesity, marital problems, sexual dysfunction, and psychosomatic disorders. Students will have an opportunity to study and observe the crucial link between thoughts and emotions and the sense of competency patients can develop through self-help techniques. The course utilizes didactic, experiential and observational techniques.

533. (NURS333) Victimology. (C) Cronin, G. Offered Fall, Spring & Summer I.

This course examines the wide range of victimization experiences from the perspective of the victim, their families and society. Crimes to be studied include workplace violence, corporate crime, robbery, burglary, assault, rape, stalking, domestic violence, homicide, suicide, elderly abuse and child sexual abuse and exploitation. The role of the medical examiner, health care providers and the FBI as they relate to victims of crime will be discussed. Emphasis will be given to exploring the elements of each crime and response patterns to victimizations. Services available to victims of crime will be discussed.

As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.

534. (NURS332) Forensic Science I. (B) Cronin, G.

This course discusses the interface of law and science. Forensic science is

the application of scientific principles in the legal arena. This course examines the contribution of forensic science to criminal and civil investigation. Crime scene analysis is accomplished via disciplines within forensic science. The role of the medical examiner, the structure and function of crime laboratories, death investigation and the role of health care personnel in forensic cases is discussed.

As of Spring 2016, students in the College of Arts and Sciences are not permitted to enroll in this course.

535. Comparing Health Care Systems in an Intercultural Context: Study Abroad. (B) Kagan; Stringer; Muecke. Prerequisite(s): Permission of instructor. Seminar held in Spring, study abroad field experience held intra-session.

This course offers students an opportunity to: 1) expand their knowledge base in health care systems; 2) develop intercultural competency skills and 3) shape a conceptual framework for improving the quality of health care for the individual, the family, the community and society at large. Emphasizes the relational, contextual nature of health care and the inseparability of the notions of the health of individuals and the health of family, society, and culture. Includes field experience.

L/R 540. (NURS334) Current Issues In Health and Social Policy. (L) Sochalski; McHugh, M.

Analysis of key contemporary issues in health and social policy that will provide students with a deeper understanding of the design and structure of the U.S. health care system, the policy initiatives that have shaped it, and the roles of the government, the private sector, and consumers and advocacy groups in setting the policy agenda. Seminars will examine the origins of each issue, the policies enacted and their effects, both intended and unintended, and will propose and debate the merits of alternative policy solutions. The role of health services and policy research in informing the policy debate and directions will be highlighted.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

544. (NURS344) Etiology and Treatment of Contemporary Chronic Diseases in America: Focus on Obesity and Cancer. (B) Glanz; Sarwer; Jacobs, L.

This course will focus on two of the major public health problems in the United States - obesity and cancer. These diseases will

be considered from a variety of perspectives: epidemiological, environmental, physiological and behavioral. In addition, the course will focus on the range of interventions being developed to treat as well as prevent both diseases.

545. Maternal and Infant Care in the Americas. (B) Guidera; Durain. Registration By Permission of Instructor.

This clinical elective will provide an intensive historical, sociopolitical, and cultural perspective of health and health care delivery in the Americas with a special emphasis on Latin America and the Caribbean. Classroom, direct clinical care and field experiences are designed to provide students with a broad view of the history and culture system of the country of focus. The delivery of health care to women and children will be explored from a sociopolitical, cultural and historical context. Service learning experiences are an integral component of this course. The course includes 5 seminars on campus and 10-14 days on site in the country of focus. The country of focus may vary each semester.

547. Scientific Inquiry for Evidence-based Practice. (C) Spatz; Kutney-Lee; Polomano. Prerequisite(s): NURS 230.

This course is designed to advance students' understanding of the research process, methods of scientific inquiry, and analytical techniques. Students acquire knowledge of systematic approaches used by scientists to design and conduct studies. Course content prepares students to appraise quantitative and qualitative research, and evaluate the scientific merit and clinical significance of research for translation into practice. Evidence-based guidelines are examined and rated for strength of evidence and expert consensus using evidence grading systems and defined criteria. Students engage in variety of creative learning experiences to facilitate appreciative inquiry, clinical reasoning, and evidence-based practice. Quality improvement, comparative effectiveness analyses, information science, and electronic health systems technology demonstrate the capacity for measurement and surveillance of nursing-sensitive and other outcomes used to evaluate quality nursing care and test interventions. Ethical, legal and health policy implications for research are explored. This course serves as the basis for scientific inquiry about human experiences to address important problems that require solutions and to expand the research and the evidence base for professional nursing practice.

548. Negotiations in Healthcare. (A) Burke, K.; Prerequisite(s): Undergraduates must have permission of instructor.

This course examines the process that leads to change in health care settings and situations. Students will develop skills that lead to effective negotiations in interpersonal and organizational settings. Included in the discussion are: concepts of organizational structure and power, negotiating in difficult situations, and the role of the health care professional in negotiation and change. The course also examines techniques leading to successful implementation of negotiated change in the practice setting.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

550. (NURS368) Home Health Care Concepts: Mgmt. & Delivery of Community-Based Care. (A) Doyle.

This course examines the major aspects of home-based care across patients' life spans from acute to long term care. New trends, advances, and issues in home management of complex conditions, innovative delivery systems and legal, ethical and policy consideration will be explored.

551. Applied Health Informatics. (H) Bowles. Prerequisite(s): Experience in using the Internet to retrieve information. Basic knowledge of Microsoft Access is expected.

Catalogue Description: This course is designed to address issues related to the impact of information technology on health care practitioners and consumers of all ages. Students will learn about and gain experience with practical applications of information technology (Access, handheld devices, telehealth, Internet resources) that improve the quality of health care communication and delivery and facilitate health care research. Class projects include working with clinical databases and evidence based information sources.

552. Health Care and Social Policy. (A) Aiken.

This course is an area study or survey of social policy issues in contemporary health care. Topics include social contexts of health care and health policy; the organization and financing of health services; the health professions; health and illness over the life cycle; achieving equitable access to health services; the interface between health and social services. Health problems of national significance will be addressed including infant mortality, teenage pregnancy, AIDS,

the chronically mentally ill and homeless, health impaired elderly.

553. INNOV & APPLD TECH II. (B)

555. (GSWS555) Women and Incarceration. (A)

This elective course will afford students the opportunity to develop and implement health education workshops for incarcerated women in the Philadelphia jail system. Students will explore the social and historical framework and trends in the incarceration of women, as well as the needs of this population, and will identify specific areas that need to be addressed by particular disciplines or professions. Students will have direct contact with the jail system, its staff, and female inmates.

557. (NURS367) Principles of Palliative Care. (A) Ersek.

Prerequisite(s): Undergraduate Students Need Permission. for Graduate Students and Junior and Senior Undergraduate Nursing Students (with Course Faculty Permission).

This course examines national and global perspectives and clinical issues in the delivery of palliative care with diverse populations in multiple health care settings. Students focus on the care of persons with life-threatening, progressive illness, emphasizing respect for patients' and families' beliefs, values, and choices. Students also explore psychosocial and spiritual dimensions of palliative care. Historical, sociocultural, economic, legal, and ethical trends in palliative care are discussed. Factors affecting health care systems and societal attitudes are considered in evaluating the delivery of care during advanced illness and at the end of life. Students engage in the critical analysis of literature, research, and observational experiences concerning biopsychosocial needs of patients and families. Students acquire competencies in patient/family assessment, communication, decision-making, and interdisciplinary collaboration in palliative care.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

562. (NURS362) Case Study in Complementary and Alternative Medicine. (K) Cuellar. Undergrads Need Permission.

This course will examine the use of complementary and alternative medicine (CAM) in health promotion and disease prevention, as well as in acute and chronic health conditions, through evidence-based research and practice. Implications of CAM

on culture, health disparities, society, economics, safety, legal, ethical, and health policy issues will be explored and discussed.

566. (NURS366) Living with Dementia. (M) Strumpf; Cotter.

Living with Dementia provides a two fold experience: guided observation of an individual with dementia and a seminar series on dementia - neuropathology, assessment, care and treatment. Students will interact with a person with AD and his/her caregiver. The goal is to understand the demented individual's functional abilities and impact of environment on performance and behavior. A further goal is to develop an appreciation of the primary caregiver's role and the strengths and limitations of community support systems. Each team of two to three will be assigned a family unit for study. In so far as possible, teams will be interdisciplinary.

567. An Evidence-based Approach to Managing Symptoms in Advanced Illness. (B) Meghani; Ersek.

Prerequisite(s): Junior and Senior undergraduate students may be admitted with course faculty permission.

This course uses an evidence-based approach towards systematic assessment and management of common symptoms and symptom clusters accompanying progressive, life-limiting illnesses within a framework of nationally recognized standards and guidelines for palliative and end-of-life care. Students are prepared to apply principles of palliative management to diverse patient populations across clinical settings including acute, primary, long-term, and community care. Refer to course syllabus or email course faculty for respective requirements.

570. (PUBH500) Introduction to Public Health. (A) Buttenheim; Nguyen.

Prerequisite(s): Undergrads Need Permission.

This course will provide a foundational overview of the field of public health and grounding in the public health paradigm. Content will include the history of public health, an introduction to the basic public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental public health, policy and management and prevention of chronic and infectious diseases and injuries, future directions for public health and an introduction to issues in international health, ethics, context analysis (specifically the notion of urban health), health promotion and disease prevention paradigms.

577. Advanced Practice Issues for Palliative Care Nurses. (L) Ersek; Meghani; Polomano. Prerequisite(s): NURS 557. Undergraduates Need Permission.

This course provides an in-depth examination of 1) key practice, policy, and ethical issues affecting the delivery of palliative care and 2) the responsibilities of advanced practice nurses (APRN) providing care to patients with progressive, life-limiting illness and their families. Learning experiences will focus on conducting patient/family conferences; examining selected ethical issues in palliative care; analyzing organizational, economic and health policy issues that affect the delivery of hospice and palliative care; exploring current and emerging models of palliative care delivery; and creating approaches to enhancing continuity of palliative care across settings. Students will choose assignments to meet their professional goals.

580. Pharmacology of Anesthesia and Accessory Drugs I. (A) Magro; Lynn. Prerequisite(s): NURS 617.

This course explores the various routes of anesthetic administration addressing the potential benefits and risk of each. Special emphasis is placed on specific anesthetic agents and their appropriate use. The responses and common complications associated with these agents are discussed.

587. (PUBH588) Advanced Leadership Skills in Community Health. (B) Margo; Klusaritz; Lipman. Prerequisite(s): Enrollment in a Masters or Doctoral program. Undergraduates with permission of the instructor.

Grounded in a social justice perspective, this course aims to provide the student with a foundational overview of the field of community health and leadership skills in public health advocacy. The course encourages critical thinking about health outcomes framed by the broad context of the political and social environment. This course analyzes the range of roles and functions carried out by leaders in healthcare advocacy for marginalized communities; integrates knowledge of health policy and the key influence of government and financing on health outcomes; explores community-based participatory research and interventions as tools for change; and discuss ways to develop respectful partnerships with community organizations. An assets-based approach that draws upon the strengths of communities and their leaders provides a foundation for community-engagement skill building. The course emphasizes the

development of skills and techniques to lead effective, collaborative, health-focused interventions for disenfranchised groups, including residents of urban neighborhoods.

588. (GSWS588) The Politics of Women's Health Care. (B) McCool; Durain; Lewis, L.

This course will utilize a multidisciplinary approach to address the field of women's health care. The constructs of women's health care will be examined from a clinical, as well as sociological, anthropological and political point of view. Topics will reflect the historical movement of women's health care from an obstetrical/gynecological view to one that encompasses the entire life span and life needs of women. The emphasis of the course will be to undertake a critical exploration of the diversity of women's health care needs and the past and current approaches to this care. Issues will be addressed from both a national and global perspective, with a particular focus on the relationship between women's equality/inequality status and state of health.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

600. Principles and Practice of Transformative Nursing Education. (A) McHugh; Keim; Klenke-Borgmann.

Prerequisite(s): Baccalaureate in Nursing plus a Master's Degree in Nursing or in a Health Related Area. Current Master or Doctoral Students with permission of the Program Director and the Course Director.

This course is designed to provide expert advanced practice nurses and midwives, currently holding faculty positions, with a theory and practice base to promote excellence in classroom teaching. The focus of the course is theories and principles of teaching and learning related to adult learning. Personal and educational philosophies and their relationship to the learner are explored. Basic components of curriculum development are integral to the course. A designated mentor teacher at the home university with a Masters or Doctorate degree, nominated by the student and approved by the Course Director, works in partnership with the student and Penn faculty.

601. Integrating Classroom and Clinical Pedagogies in Nursing Education. (B) McHugh; Keim; Klenke-Borgmann. Prerequisite(s): NURS 600.

This course builds on the knowledge attained in NURS 600 as well as the

knowledge and skills of the expert clinician. The focus of the course is clinical teaching for the advanced practitioner, perceptor preparation and issues related to establishing and maintaining clinical sites. Academic responsibilities of faculty members, ethical and legal issues in education and educational effects of professional trends, health care policies and rapidly changing environments are also explored.

607. Advanced Physiology and Pathophysiology. (A) Tkacs.

Prerequisite(s): Completion of undergraduate courses that include Biochemistry, Nutrition, Anatomy and Physiology or permission of the instructor.

This course will integrate advanced physiology with pathophysiology and clinical implications across the lifespan for advanced nursing practice. Organ systems function and dysfunction from the level of the cell through integrated organ levels will be presented, and the genetic basis of disease will be discussed. Recent scientific advances will be discussed with application to new approaches to disease and symptom management. The interrelationships between basic physiology, clinical pathophysiology, and genetics are emphasized through lecture and case studies.

608. Advanced Pharmacology and Therapeutics for Nursing Practice. (C) Boulatta; Carey; Manning.

Prerequisite(s): NURS 607 or NURS 685.

Advanced principles of clinical pharmacology and therapeutics are applied to the nursing care of individuals across the life-stage spectrum. It focuses on the content and knowledge employed by the advanced practice registered nurse in the management of various conditions and disease states. The course builds on the pharmacology knowledge base acquired in the baccalaureate nursing program. The advanced pharmacology and therapeutics of several common diseases or conditions found in the acute care and primary care setting is presented. This is supplemented with pharmacotherapy modules to meet program specific needs.

610. Concepts in Healthcare Economics. (B) Piper, A.

This course examines health care from an economic perspective tailored for the nurse manager and executive. Emphasis is on the allocation of health care resource policies in the United States with examination of different health care programs. Within the health care industry, focus is on public and private health care funding in addition to

the role of managed care systems with relation to financing and delivery of health services.

This course satisfies the Society & Social Structures Sector for Nursing Class of 2012 and Beyond.

612. (HPR 504) Principles and Practice of Healthcare Quality Improvement. (A) Myers, J.; Burke, K.

Healthcare delivery is complex and constantly changing. A primary mission of leading healthcare organizations is to advance the quality of patient care by striving to deliver care that is safe, effective, efficient, timely, cost-effective, and patient-centered (Institute of Medicine). The goal of this interprofessional course is to provide students with a broad overview of the principles and tools of quality improvement and patient safety in healthcare as well address the knowledge, skills and attitudes as defined by the Quality and Safety Education for Nurses (QSEN) guidelines. It will provide a foundation for students or practicing clinicians who are interested in quality improvement and patient safety research, administration, or clinical applications.

Content will address the history of the quality improvement process in healthcare, quality databases and improvement process tools and programs. Through the use of case studies and exercises students will become familiar with the use of several quality improvement programs and tools. For example, the Plan-Do-Study- Act (PDSA) cycle, Six Sigma and the Toyota Production System known as Lean Production processes will be addressed. Students can use this course to identify the tools and design the methods that they plan to employ in a quality improvement or patient safety project in their area of interest.

617. Principles of Nurse Anesthesia Practice I. (L) Magro; Lynn. 12-Week Summer Session.

This course explores the various routes of anesthetic administration addressing the potential benefits and risk of each. Special emphasis is placed on the monitoring of patients during the intra-operative phase. The responses to the common complications that occur during the intra-operative phase are discussed utilizing a case study approach.

618. Principles of Nurse Anesthesia Practice II. (B) Magro; Lynn. Prerequisite(s): NURS 617.

This course explores the indications, contraindications and considerations

regarding the administration of regional, epidural and spinal anesthesia. Anatomical and physiological considerations regarding the administration, monitoring and reversing of anesthetic agents are reviewed. Common side effects and adverse effects are discussed and the effective treatments of each are explained. Factors leading to substance abuse are identified and discussed. Opportunities to practice spinal needle placement and administration of anesthetics are provided in the simulation laboratory.

619. Principles of Nurse Anesthesia Practice III. (L) Magro; Lynn; Winner.

Prerequisite(s): NURS 618. 12-Week Summer Session.

This course explores the special considerations of pediatric, obstetric, and geriatric patients undergoing anesthesia. The pre-anesthesia assessment of these patients is discussed with particular emphasis on the commonly occurring complications and how to anticipate and manage them. Monitoring for anesthetic effect, hemodynamic effect and potential adverse reactions is reviewed using a case study approach

620. Principles of Nurse Anesthesia Practice IV. (A) Magro; Lynn.

Prerequisite(s): NURS 619.

This course provides a systems approach to examining specialty surgical procedures and the anesthesia requirements for each. Analysis of the pre-anesthesia assessment, the intraoperative monitoring and the post-anesthesia care required for patients undergoing the surgical procedure will be presented. Population specific considerations will be emphasized.

621. Principles of Nurse Anesthesia Practice V. (B) Magro; Lynn.

Prerequisite(s): NURS 620.

This course provides a systems approach to examining specialty surgical procedures and the anesthesia requirements for each. Analysis of the pre-anesthesia assessment, the intraoperative monitoring and the post-anesthesia care required for patients undergoing the surgical procedure will be presented. Population specific considerations will be emphasized.

622. Pathogenesis of Mental Disorders Across the Lifespan. (A)

Hanrahan; Tkacs.

The conceptual and practice application of brain-behavior relationships for individuals with mental health and psychiatric conditions is developed in this course. Students learn interview and differential diagnostic skills to screen for

neuropsychological etiologies of mental disorders such as schizophrenia, bipolar disorders, mood disorders and anxiety disorders. The course reviews specific theories of etiology and diagnostic classifications found in the Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition- Text Revision (DSM IV-TR). Students develop the ability to make critical decisions as they learn finer points of differential diagnosing of mental disorders using a case based method of learning, allowing students to focus on specific populations such as aged, adults, adolescents, and children.

625. Clinical Modalities Across the Life Cycle in Advanced Practice Psychiatric Mental Health Nursing. (L) Coleman, C.

Crisis intervention, brief psycho-therapy, group processes and practices, milieu therapy, and intervention with families are examined as they relate to nursing practice in mental health.

626. Family and Organizational Systems Across the Life Span. (L)

Pollack, F. Summer Session I.

This course presents Bowen Family Systems Theory as it applies to families over the life and organizations over time. This is a theoretical course whose purpose is to provide the student with a broad, systemic perspective on human functioning. The course begins with a detailed presentation of Systems Theory, from both a family and organizational perspective. As presented there is a continual compare and contrast to other dominant theories of human functioning. It then applies the concepts of Systems Theory to the understanding and assessment of the stages of the normal family life cycle from a multi-generational, multi-cultural perspective. This is followed by discussions of the theory's application to the emotional problems of children, adolescents, adults and their families. Likewise, application to organizational behavior is made, including health care organizations. Relevant research is discussed throughout.

628. Mental Health and Aging. (B)

Cacchione; Evans.

An examination of the psycho-socio-cultural processes which influence the behavior patterns, coping, and adaptation of older adults. The course emphasizes strategies to promote mental health as well as assessment, presentation, and intervention in the major acute and chronic psychiatric disorders affecting the older adult.

629. BAS PRIN NURS ANESTHESIA. (A)

637. Introduction to Research Methods and Design. (C)

Tulman; Polomano; Spatz; Hatfield. Prerequisite(s): Undergraduate Statistics Class. Must hold an RN license. Also offered in 6 week Summer Session I and 12 week Summer Session I & II.

The relationships among nursing theory, research and practice will be examined. An emphasis will be placed on research competencies for advanced practice nurses (APNs), including understanding nursing research methods and strategies in order to evaluate research results for applicability to practice and to design projects for evaluating outcomes of practice. An understanding of statistical techniques will be integrated into the course and build on the required undergraduate statistics course. Published nursing research studies will be evaluated for scientific merit and clinical feasibility, with a focus on evidence-based practice.

640. (PUBH551, SOCI640, SWRK793) Global Health and Health Policy. (M)

Aiken; Voet; McLaughlin.

This participatory interdisciplinary seminar course examines contemporary issues in public health policy and global health. The organizing framework is social determinants of health. We consider evidence that inequalities in education, income, and occupation influence health status, and the policy dilemma that broad interventions to improve population health may increase health disparities. We critically examine whether prevention is always better than cure, and what modern medicine has to offer in terms of health. We explore the public policy process in health using the "tobacco wars" as a case example, of how politics, policy, law, commercial interests, and research intersect to affect the public's health. We examine whether global health is in a state of decline, and the extent to which failures in public health, public policy, and foreign policy have contributed to increasing threats to world health. Likewise we will examine the potential for greater integration of health into foreign policy to create global infrastructure upon which to advance health. We will examine the global health workforce and the impact of widespread global migration of health professionals on receiving and sending countries.

There are no prerequisites. The course is designed for graduate students in the social and behavioral sciences, health professions, public health, business and

law. Advanced undergraduate students will be admitted with permission.

641. Autism Spectrum Disorder: Prevalence, Etiology, Screening and Assessment. (A) Pinto-Martin; Souders. Prerequisite(s): Post-BSN students only. Junior and senior undergraduate students may be admitted with course faculty permission.

Through classroom and clinical experiences, this course provides an overview of the public health problem of autism spectrum disorder (ASD). Content addresses the natural history, etiology, rising prevalence, risk factors, and core features. Changes in prevalence statistics and possible causes are outlined. These subjects are described in general terms for an overall picture of the disorder. Taking a developmental approach, students begin case management and follow a family through screening, diagnosis and treatment planning. Key information is elaborated through case studies. The course highlights the important and evolving role of nurses in the care of people with ASD. Content is supported by the scientific literature. Students' clinical experiences start with the identification of and collaborative work with a family that has a young child with ASD. The student follows that family and the child through diagnosis, treatments and long term planning. This case approach allows the student to work with the same family over the entire post-masters program to learn the value of interdisciplinary, contiguous care.

642. Health and Behavioral Care Planning and Intervention for Autism Spectrum Disorder. (B) Pinto-Martin; Souders. Prerequisite(s): NURS 641.

Through classroom and clinical experiences, this course focuses on the application of various treatment approaches to the management of acute and chronic problems of autism spectrum disorder. Approaches to behavioral, psychological and medical co-morbidities are explored, practiced and evaluated. Students' clinical experiences build on the previous semester and continue with the application of class instruction to patient and family care. The student works closely with behaviorists, psychologists and occupational therapists to integrate nursing care planning with other services. This case approach continues, and exposure to a second family is added to expand learning opportunities and develop nursing services.

643. Leadership, Advocacy, and the Practice of Integrated Nursing Care of ASD. (L) Pinto-Martin; Souders.

Prerequisite(s): NURS 642. Spring and/or Summer Offering.

Emphasis is on the synthesis of course content practice. Through classroom and clinical experiences, students critically examine the role of nursing in the life-long care of people with ASD, and identify ways to expand the scope of nursing care for this vulnerable population. Students explore the availability of services in the community and discuss approaches to patient advocacy. Students have opportunities to select an area of specialization to develop specific practice expertise. Such areas are Diagnosis and Referral Practices (e.g. ADOS Training), Behavioral Therapy Training (e.g. Applied Behavioral Analysis), and clinical research. Practical issues of collaboration and reimbursement for services are explored. Students' clinical experiences are designed to facilitate scholarship, independence and advanced specialization in a chosen component of ASD care, for example, behavioral analysis, screening and/or diagnosis, or an agenda for research. Students identify and implement an independent project.

644. Health Care in an Aging Society. (B) Bradway;

Individual and societal influences on the care of older adults are examined in detail within the context of an emerging health care system. Normal changes in physical and psychological health are explored in depth. Significant issues affecting care of older adults and their families at the global and national level are discussed.

645. Psychopharmacology Across the Lifespan. (B) Hanrahan.

Prerequisite(s): NURS 622.

This course focuses on the development of knowledge and skills related to the use of psychopharmacologic agents to treat mental illness by the advanced practice nurse.

Using a case study method to encourage the application of knowledge to clinical practice, the course addresses culturally diverse client populations, across the life span, who present with a range of symptom manifestations, at all levels of severity. The course emphasizes evidence-based practice, research-based clinical decision making and a wholistic approach to integrating the science and biology of the mind with social and behavioral interventions. The case base method allows students to focus on specific populations such as older adults, adults, adolescents, and children.

646. Primary Care: Diagnosis and Management of Adults Across the Lifespan. (A) Bradway; Cotter.

Prerequisite(s): NURS 657.

This course focuses on development of critical thinking skills to address health care problems of adults across the lifespan, with an emphasis on middle-aged and older adults, develop differential problem solving skills and determine appropriate management interventions. The management of common acute and chronic health conditions will include evidence based primary preventions, drug and treatment therapeutics, and referral to other health care providers. Students have the opportunity to build on previously acquired skills and to apply concepts of primary care to manage the health problems of adults across the lifespan.

647. Primary Care Clinical Practicum: Diagnosis and Management of Adults across the Lifespan. (A) Cross; O'Sullivan.

Prerequisite(s): NURS 657. Corequisite(s): NURS 646.

Management and evaluation of primary care problems of middle-aged and older adults in a variety of ambulatory and occupational settings. Opportunity to implement the role of the nurse practitioner with middle-aged and older adults and their families in the community.

Interdisciplinary experiences will be pursued & collaborative practice emphasized. Students are expected to assess and begin to manage common chronic health problems in consultation with the appropriate provider of care. The initiation of health promotion & health maintenance activities with individuals and groups is stressed. Includes 16 hours a week of clinical experience with a preceptor.

648. Primary Care: Complex Diagnosis and Management of Adults across the Lifespan. (B)

Cotter. Prerequisite(s): NURS 646, 647.

This course will build on concepts presented in the Diagnosis and Management of Adults across the Lifespan (NURS 646) course. The focus is on refining health assessment skills, interpreting findings, developing and implementing appropriate plans of care to meet common health maintenance needs of adults and to promote the health of adults with more complex health problems with an emphasis on the frail adult. The student will gain increased expertise in communication skills, health assessment skills, interpreting findings, epidemiological concepts and developing

and implementing plans of care. The emphasis will be placed upon managing an aging population with complex, chronic healthcare needs and promoting healthy behaviors across the lifespan.

649. Primary Care Clinical Practicum: Complex Diagnosis and Management of Adults across the Lifespan. (B) Cotter; Taylor.

Prerequisite(s): NURS 646, 647.

Corequisite(s): NURS 648.

The focus of this course is the application of concepts presented in the Complex Diagnosis and Management of Adults Across the Lifespan (NURS 648) including initial workups of new patients, and the evaluation and management of patients with self-limiting acute problems, or stable chronic illnesses. Students will gain increased clinical expertise in a variety of community-based clinical settings including but not limited to health maintenance organizations, community clinics, long term care, assisted living, continuing care retirement communities, occupational health settings, and private practice. The student will gain increased expertise in communication skills, health assessment skills, interpreting findings, applying epidemiological concepts and developing and implementing plans of care for adults across the lifespan with health maintenance needs, and/or common acute and chronic health problems.

650. Systems Thinking in Patient Safety. (B) Keim; Burke, K.

This blended online/in-classroom graduate level course integrates principles of systems thinking with foundational concepts in patient safety. Utilizing complexity theories, students assess healthcare practices and identify factors that contribute to medical errors and impact patient safety. Using a clinical microsystem framework, learners assess a potential patient safety issue and create preventive systems. Lessons learned from the science of safety are utilized in developing strategies to enhance safe system redesign. Core competencies for all healthcare professionals are emphasized, content is applicable for all healthcare providers including, but not limited to, nurses, pharmacists, physicians, social workers and healthcare administrators, and may be taken as an elective by non-majors.

651. Nursing Informatics. (L) Bowles; Maffei. Prerequisite(s): Basic Computer Skills.

This course is designed to introduce the student to fundamental concepts and issues surrounding technology and information

management in today's rapidly changing health care environment. Emphasis will be placed on defining informatics and the models and theories used in its development. To prepare the student to take a leadership role in information system design and selection the class will study the process of information systems analysis, implementation and evaluation involving functional, organizational and human aspects.

652. Applied Healthcare Accounting and Business Planning. (B) Keim; Fuir.

This course focuses on the management of financial resources in the healthcare industry particularly in inpatient and ambulatory care settings. Specific emphasis is on applied accounting, budgeting, capital planning, nursing staffing/scheduling and variance analysis. Additionally, students will apply concepts in developing a business/program plan including completion of an environmental scan, cost-benefit analysis and marketing plan. Students will engage in strategic planning, stakeholder analysis and benchmarking efforts.

655. Nursing Administration Practicum. (C) Keim, DiMichele.

Prerequisite(s): NURS 699.

This administrative practicum will be individually tailored to meet each student's career goals. Students will be placed with an expert role model who in most instances will be a practicing nurse executive. The setting may vary according to the student's interests and objectives. Examples include acute care, home care, long term care, occupational health, community based clinics, consulting groups and political/legislative experiences.

656. Professional Role Issues for Nurse Practitioners. (A) O'Sullivan; Bryan. Corequisite(s): NURS 657.

This course is intended for students planning a career that involves primary health care delivery. It includes lectures, discussions, readings, and projects focused on health, social, economic and professional factors influencing health care delivery in the community.

L/L 657. Advanced Physical Assessment and Clinical Decision Making. (A) Buzby; Reger; Sherry.

This is a laboratory/clinical course designed to help prospective nurse practitioners develop advanced clinical assessment skills. Provider-patient interaction, data collection, and hypothesis formulation are emphasized. All

participants engage in actual practice with fellow students, and/or models, and consenting patients.

658. Clinical Management of Primary Care with Young Families. (C)

O'Sullivan. Prerequisite(s): NURS 656, 657. Corequisite(s): NURS 659.

Assessment and treatment of the young child in ambulatory care settings is the focus of this developmentally organized course. This course provides the nurse practitioner student with the necessary knowledge and experience to assist individuals with the most common health problems, including acute episodic illness as well as stable chronic disease. The concepts of health promotion and health maintenance are integrated throughout the curriculum. Using a developmental framework, the maturational tasks and problems of children and their families in relation to illness and health are explored.

659. Clinical Practicum: Primary Care with Young Families. (C)

O'Sullivan. Prerequisite(s): NURS 656, 657. Corequisite(s): NURS 658.

Management and evaluation of primary care problems of children in a variety of ambulatory settings. Opportunity to implement the role of nurse practitioner with children and their families in the community occurs under the guidance of faculty and experienced preceptors. The initiation of health promotion and health maintenance activities with individuals and groups is stressed. Collaborative, interdisciplinary practice is emphasized as students assess and manage common problems in consultation with an appropriate provider of care. 20 hours a week of clinical experience with a preceptor is arranged.

SM 660. Clinical Practice with Select Populations: Adolescents. (L)

O'Sullivan. Prerequisite(s): NURS 656, 657, 658, 659. Summer Session I.

Focus on assessment and treatment of adolescents in a variety of settings. Didactic emphasis is on the special needs encountered among adolescents. This course adds to the student's previous knowledge and skill in the delivery of primary care. Working with this specific population the student gains necessary knowledge and experience in assisting individuals with most common health problems, including acute episodic illness and stable chronic disease, as well as health promotion needs. All

SM 661. Clinical Management of Primary Care with Adults. (L)

O'Sullivan. Prerequisite(s): NURS 646, 647 or NURS 658, 659. Summer Session I.

Assessment and treatment of younger adults in ambulatory care settings is the focus of this clinical course. The course provides the nurse practitioner student with the necessary knowledge and experience to assist individuals with most common health problems, including acute episodic illness. The concepts of health promotion and health maintenance are integrated throughout the curriculum. Using a developmental framework, maturational tasks and problems of the adult and family in relation to illness and health are explored.

SM 663. Advanced Concepts in Primary Care. (L)

O'Sullivan. Prerequisite(s): NURS 660 or NURS 661. Summer Session II.

In conjunction with the development of advanced clinical skills, students focus on advanced practice role development and the study of issues in health service delivery related to the practice of primary health care. Economics, case management and cultural/ethical aspects of care are discussed.

664. Advanced Practice Nursing for Oncology Care. (A)

Hollis; Polomano. Prerequisite(s): NURS 607; NURS 637. Summer 12 Week Session ; Permission to take this course as an elective must be approved by the course faculty.

Students are introduced to cancer epidemiology and pathophysiology, cancer genetics, prevention, risk assessment and reduction for specific cancers, screening techniques, diagnostic procedures and criteria, and local and systemic therapies used to treat cancer. The influence of individual characteristics on health promotion, health behaviors, population cancer risk, and cancer detection are explored in the context of biological, psychological, socioeconomic and sociocultural factors across age groups from adolescents to older adults. Evidence-based practice guidelines and research are applied to promote healthy lifestyles, monitor cancer risk, address psychosocial issues, facilitate access to care, and reduce health care disparities for populations at risk and diagnosed with cancer, and cancer survivors.

666. Effects of Cancer and Cancer Therapy. (B)

Walker; Prechtel-Dunphy. Prerequisite(s): NURS 646, 664. Corequisite(s): NURS 667.

Principles of cancer treatment, associated responses and symptom management are presented. Emphasis is on the development of advanced clinical decision making skills in identifying multiple alterations resulting from cancer and cancer therapy.

667. Oncology Nursing: Assessment, Diagnosis, & Cancer Management. (B)

Polomano; Walker; Prechtel-Dunphy. Prerequisite(s): NURS 664, NURS 666. Corequisite(s): NURS 666. \$60 Lab Fee.

Emphasis is on the application of critical thinking and diagnostic reasoning skills in advanced clinical decision making. Students assess, diagnose, and manage the care of oncology patients with a variety of cancers. The delivery of care and evaluation of role effectiveness within the health care system are examined.

670. Principles of Adult Gerontology Acute Care I. (A)

Pawlow; Elgart; Becker; Doherty.

This didactic course examines the epidemiologic, assessment, diagnostic, management and evaluation of acutely or critically ill adults across the adult-older adult age spectrum. Students explore the dynamic interplay between the pathophysiologic basis of disease and the psychosocial and socio-cultural responses to acute and critical illness and injury as they develop clinical decision-making skills. An evidence-based approach to nursing and medical management including pharmacologic and non-pharmacologic modalities is emphasized. Cardiovascular and pulmonary systems, infectious and prevention issues commonly encountered by adults are covered. Particular focus is placed on specific issues related to the older adult such as frailty, dehydration, loss of functional mobility, falls, and other geriatric syndromes.

671. Principles of Adult Gerontology Acute Care II. (B)

Pawlow; Elgart; Becker; Doherty.

In this didactic course, students learn to integrate their advanced pharmacology and pathophysiology background with their understanding of acute illness and injury. The focus is on the evidence-based management of patients with neurologic, gastrointestinal, renal, oncologic, and metabolic health problems. Students develop skills to create a differential diagnosis when an adult/older-adult presents with a constellation of symptoms.

Common and atypical presentations of illness and disease are explored. Focus is placed on holistic care including the psychosocial, cultural, and spiritual aspects of patients' response to their illness or injury. Epidemiology, assessment, diagnosis, management, and advanced clinical decision making based on current clinical research are emphasized.

672. Principles of Adult Gerontology Acute Care III. (L)

Pawlow; Elgart; Becker; Doherty.

This didactic course examines issues related to the epidemiology, assessment, diagnosis, management and evaluation of acute, critical and complex chronically ill adults across the adult-older adult age continuum. Students explore the dynamic interplay between the pathophysiologic basis of disease and the psychosocial and socio-cultural responses to illness and injury across the adult age continuum as they develop clinical decision-making skills. An evidence-based approach to nursing and medical management including pharmacologic and non-pharmacologic modalities is emphasized. Content focuses on special adult and older adult patient populations with commonly encountered health problems.

SM 673. Advanced Clinical Decisions in Adult Gerontology Acute Care. (A)

Pawlow; Griffith; Becker. Prerequisite(s): NURS 607, 657. Corequisite(s): NURS 670.

This didactic and fieldwork course focuses on development of a systematic approach to advanced physical assessment, the use and interpretation of diagnostic technologies and development of diagnostic reasoning as it applies to patient management of the adult-older adult acutely ill or injured patient. Emphasis is placed on development of competence to perform a comprehensive history and physical examination, incorporating the analysis of biotechnological data trends. Building fundamental skills in developing differential diagnoses and clinical decision making for acutely ill patients across the adult age continuum is a focus of this course.

674. Adult Gerontology Acute Care NP: Professional Role and Clinical Practicum I. (B)

Becker ; Griffith. Prerequisite(s): NURS 673.

This didactic and clinical fieldwork course explores issues relevant to the role of the Adult Gerontology Acute Care Nurse Practitioner within the complex U.S. health care system. Role development, reimbursement issues, provision of quality

and ethical care and evidence-based nursing and medical interventions are introduced and discussed in the classroom. Clinical fieldwork focuses on assessment of complex acute, critical and chronically-ill patients for urgent and emergent conditions, using both physiologically and technologically derived data, to evaluate for physiologic instability and potential life-threatening conditions, development of differential diagnoses, application of diagnostic reasoning and formulation, implementation, evaluation and modification of individualized plans of care including pharmacological and non-pharmacological modalities. Development of advanced clinical competencies and clinical decision making abilities about adults across the age continuum is emphasized.

675. Adult Gerontology Acute Care NP: Professional Role and Clinical Practicum II. (L) Becker; Griffith; Doherty. Prerequisite(s): NURS 670, 671, 672, 673, 674. Summer I & II - 12 Week Course.

This didactic and fieldwork course focuses on the role of the Adult Gerontology Acute Care Nurse Practitioner and the expansion of advanced clinical competencies and clinical decision making abilities. Clinical experiences in acute care settings provide the student with opportunities to refine history and physical examination techniques, diagnostic reasoning, formulation, implementation, evaluation and modification of individualized management plans. Specific attention is given to the unique presentation of syndromes and constellation of symptoms that may be typical or atypical presentation of complex acute, critical and chronic illness in adults and older adults. Facilitating transition of patients at varying life stages through the complex health care system is encouraged exploring the multiple governmental, social and personal resources available to acutely ill adults across the age continuum. The application of advanced nursing, medical and biopsychosocial knowledge in the management of patients and the collaboration between the nurse practitioner and the patient, family and interprofessional healthcare team are emphasized.

677. (PUBH530) Environmental Toxicology: Risk Assessment and Health Effects. (A) Liu. Undergraduates Need Permission.

This course presents general principals of toxicology and the disposition of toxins in the body. Case studies of the effects of

environmental and occupational toxins on individuals will be analyzed. This course is designed for students who desire a strong foundation in toxicological concepts and principals and provides an overview of major toxins in our environment and their association with human health.

681. Applied Physiology for Nurse Anesthetists I. (L) Magro; Lynn; Tkacs. 12 Week Summer Session.

This course provides an in-depth analysis of the anatomy, physiology and pathophysiology of the respiratory and cardiovascular systems and related anesthesia implications. The concepts of ventilation and perfusion as they relate to oxygen and anesthetic delivery and metabolism are examined. The effects of compromised cardiac and pulmonary function and their implications for the patient and anesthesia plan are reviewed. The impact of anesthesia on the structure and function of the heart as a pump as well as the characteristics of systemic circulation will be explored. The effect of surgery and anesthesia on the respiratory and cardiovascular systems will be emphasized.

682. Applied Physiology for Nurse Anesthetists II. (A) Magro; Lynn; Libonati. Prerequisite(s): NURS 681. Corequisite(s): NURS 607.

This course provides an in-depth analysis of the anatomy, physiology and pathophysiology of the hepatic, renal, nervous, hormonal, immunologic and hematological systems and related anesthesia implications. The focus of discussion will be on the special considerations when delivering anesthetic agents to patients. Emphasis will be placed on the assessment of the patient with common disorders of these systems. Nurse anesthesia care related to patients undergoing surgeries involving each system will be discussed.

683. Applied Science Related to Anesthesia. (B) Magro; Lynn; Scanga. Prerequisite(s): NURS 607, 681, 682.

This course is an in-depth analysis of the chemical and physical principles as they apply to nurse anesthesia practice. Aspects of organic and biochemistry including the chemical structures of compounds and its significance in pharmacology will be explored. Applications of the laws of physics as they pertain to nurse anesthesia practice will be reviewed with specific examples. Emphasis on the dynamics of the anesthesia delivery system and related equipment will be presented.

685. Advanced Developmental Physiology and Pathophysiology.

(A) Trimarchi; Marino. Prerequisite(s): Undergraduate course in Anatomy & Physiology.

This course will address advanced human embryology, physiology and pathophysiology. Biochemical genetics and the genetic basis of disease will be discussed. Normal fetal development and physiology of organ systems will be used as the foundation for understanding the pathophysiology of disease across the lifespan.

L/R 686. (NURS736, NURS781) Well Woman Health Care. (A) Durain; Grube; Nagtalon-Ramos. Prerequisite(s): NURS 657.

This course focuses on the management and evaluation of physical, emotional, socio-cultural and educational needs of gynecologic primary health care of women from adolescence through post-menopausal years. The content is directed at expanding the expertise of the student in meeting the primary women's health care needs in contemporary society. Social influences that have an impact on women's lives are also explored.

688. Complementary/Alternative Therapies in Women's Health. (A) Grube.

The dramatic rise in the use of complementary and alternative medicine (CAM) by the American public requires that the contemporary health care practitioner have an awareness of CAM therapies and modalities currently available. The end result of this is course will not be proficiency in the practice of any of these modalities in particular, but rather a basic understanding of each approach to common conditions and their potential contribution to health and well-being. The focus of the CAM modalities discussed in this course will center on their use in women's health care provision.

690. Family Focused Primary Care of the Middle-Aged and Older Adult. (B)

O'Sullivan. Prerequisite(s): NURS 656, 657. Corequisite(s): NURS 691.

This course focuses on primary care problems encountered by middle-aged and older adults and their families. Students have the opportunity to build on previously acquired skills and to apply concepts of primary care to manage the complex health problems of middle-aged and older adults.

691. Clinical Practicum: Family Focused Primary Care of the Middle Aged and Older Adult. (B) O'Sullivan.
Prerequisite(s): NURS 656, 657.
Corequisite(s): NURS 690.

The focus of this course is the evaluation and management of primary care problems in middle-aged and older adults. Students will have an opportunity to implement the role of the nurse practitioner in the clinical setting. Interdisciplinary collaborative experiences will be essential to the clinical practicum. The initiation of health promotion and health maintenance activities with individuals, groups and families is stressed. Students are expected to assess and manage common chronic health problems in the clinical setting.

693. Professional Issues in Midwifery. (A) McCool; Reale; Guidera.
Prerequisite(s): NURS 787, 788.
Corequisite(s): NURS 786.

In-depth discussion of current issues facing the profession of nurse-midwifery which impact on professional education, certification, and practice. Includes ethical, legal, and political aspects of nurse-midwifery practice.

697. Leadership in Advanced Oncology Nursing Practice. (L) Keim; Prechtel Dunphy; Sherry; Walker.
Prerequisite(s): NURS666 and all requisite nursing courses in the Nursing & Healthcare Administration (NADM) program. May be taken concomitantly with NURS699 or at the discretion of the NADM Program Director.

Students explore the diagnosis and treatment of common cancers in a multidisciplinary approach. The broad array of bio-medical and psychosocial issues that result from the disease itself across the illness continuum are studied. Quality of life, rehabilitation and palliative care issues related to cancer care are addressed. Additionally, students complete an administrative practicum with a nursing leader in an oncology specialty area within a healthcare organization.

698. Practicum: Quality Improvement in Healthcare. (A) Piper; Keim.
Prerequisite(s): NURS 650, NURS 537, NURS 612. Summer and Fall Placement.
Building on coursework that provided a broad overview of the principles and tools of quality improvement and patient safety in healthcare, students will apply this knowledge through completion of a mentored quality improvement project in a healthcare organization. In collaboration with faculty and health organization preceptors, students will identify a quality

improvement opportunity and develop specific project objectives including, but not limited to, the use of appropriate tools, identification of measureable aims and evaluation methods, sustainable recommendations for process improvement and a comprehensive report of findings and recommendations. This course is part of the Quality Improvement and Safety Processes in Healthcare Minor and should be completed by the student as the capstone course in that minor; students engage in 192 hours of on-site project work.

699. Advanced Roles in Administrative Nursing Practice. (L) Rich ; Keim. Prerequisite(s): For Students of the Nursing Administration and Healthcare Leadership Only. Summer II Semester.

Offered at the end of the Nursing and Health Care Administration or Health Care Leadership programs, this course prepares the graduate for entry into a myriad of administrative or leadership roles. Students will explore role responsibilities for various levels of management positions; health care consultants; health policy advocates; global health leaders; staff development directors; and administrators in non-traditional settings i.e., journal editors, professional associations etc.

SM 705. Advanced Practice Nursing Practice: Psychiatric Mental Health NP I. (A) Leahy; Mulligan; Josey.

Supervised advanced psychiatric mental health nursing practice with children, adolescents and their families, or adults and/or older adults and their families in a variety of settings, depending on the subspecialty option selected. Focus is on clinical assessment/diagnosis and decision-making. A minimum of 16 hours of practice and 3 hours of small group supervision is required.

SM 706. Advanced Practice Nursing Practice: Psychiatric Mental Health NP II. (B) Leahy; Mulligan; Josey.

Supervised advanced psychiatric mental health nursing practice with children, adolescents and their families, or adults and/or older adults and their families in a variety of settings, depending on the subspecialty option selected. Refinement and development of clinical intervention with an increasingly diverse caseload. A minimum of 16 hours of practice and 3 hours of small group supervision is required.

SM 707. Advanced Practice Nursing Practice: Psychiatric Mental Health NP III. (L) Leahy; Mulligan; Josey.
Summer Session I.

Supervised advanced psychiatric mental health nursing practice with children, adolescents and their families, or adults and/or older adults and their families in a variety of settings, depending on the subspecialty option selected. Outcome evaluation, termination and professional role development. A minimum of 16 hours of practice and 3 hours of small group supervision is required.

708. Public Policy Leadership in the American Public/Private System of Health Care. (B) Durain.

This course will explore the philosophy and growth of public policy that has directed the American Health Care System in its ever expanding movement toward universal health care for all citizens. Analysis of health policy and systems content will assist the students to identify the knowledge and skills needed for the health or human service provider to assume leadership roles in the formulation of public policy for change; this includes system restructuring, service delivery and funding of health care. Emphasis will be on the effect of policy on the individual/family user of health care services rather than the effect on professional health care providers or health care delivery systems. Special attention will be given to the effect of policy on populations, both urban and rural, living near and below the poverty level.

714. Management of Critically Ill Children with Acute and Chronic Conditions: Nursing of Critically Ill Children Advanced Clinical. (L) Verger; Bartke. Prerequisite(s): NURS 712, 713. Summer Session II.

This clinical course is designed with emphasis on continued development of advanced clinical decision-making skills in the care of critically ill children. Emphasis is placed on knowledge and skills that allow the advanced practitioner to efficiently and effectively manage children who are dependent upon or assisted by technological devices to carry out life processes.

715. Common Management Issues of Children with Acute and Chronic Conditions: Pediatric Oncology. (A) Hobbie.

This course examines the unique contribution made by nurses with advanced clinical skills in the care of children with oncologic and hematologic disorders, and their families, from the time of diagnosis

throughout the treatment period and beyond. The course provides the student with the most recent advances in knowledge about cancer in childhood.

While the focus is on oncology, hematologic disorders as well as AIDS will be discussed. Recent methods of treatment and the nursing management of children and their families will be addressed.

720. Nursing of Children Theory I: Child and Family Development. (A) Deatrick; Murphy, K.

This course focuses on developmental theories and concepts that form the basis for nursing assessment and intervention with children and families. Emphasis is given to current research and issues in child and family development and functioning.

L/L 721. Advanced Physical Assessment and Clinical Decision Making: Nursing of Children Clinical I. (A) Lipman; Reilly, L. Corequisite(s): NURS 685.

This clinical course is designed to help prospective advanced practice nurses develop advanced skills in physical and developmental assessment of children in a variety of well-child, clinic and hospital settings. Data collection, data interpretation, and hypothesis formulations are emphasized for the purpose of clinical decision making. The role of the advanced practice nurse in assessment of primary health care issues and health promotion is incorporated throughout the course. Collaboration as an integral part of assessment will be an ongoing focus.

731. High-Risk Neonate, Theory. (B) Verger; Steele. Prerequisite(s): NURS 684, 720, 721. Corequisite(s): NURS 733. Summer Session I.

This course focuses on the care of high-risk neonates within the context of the family unit. The biological and psychosocial aspects are studied as a basis for nursing practice. Emphasis is placed on the role of the Advanced Practice nurse in improving services to high-risk neonates with the purpose of decreasing mortality and morbidity rates and improving the quality of life of high-risk newborns and infants.

733. Clinical Practicum for the High Risk Neonate. (B) Verger; Steele. Prerequisite(s): NURS 684, 720, 721. Corequisite(s): NURS 731.

This clinical course focuses on the care of the high risk infant within the context of the family unit. Clinical experiences provide students with opportunities to expand their skills in managing the care of infants, both acutely ill and growing neonates. Students

continue their experiences with neonatal nurse practitioners to examine role issues of these individuals.

734. Intermediate Principles of Pediatric Acute Care. (B) Murphy, K.; Verger. Prerequisite(s): NURS 720; NURS 721; NURS 685 or NURS 607. Corequisite(s): NURS 735.

This course focuses on evidenced based care for infants, children, and adolescents with complex acute and chronic health conditions. Emphasis is placed on developing a framework for practice based on a synthesis of knowledge from biological, behavioral, and nursing sciences through the process of advanced clinical decision making. The student gains the necessary clinical management skills to provide specialized patient centered care across the entire pediatric age spectrum from complex chronic illness to physiologic deterioration and life threatening instability with emphasis on the patient and family as a full partner in decision making.

735. Pediatric Acute Care Nurse Practitioner: Professional Role and Intermediate Clinical Practice. (B) Verger; Lipman; Schucker; Campisciano. Prerequisite(s): NURS 720; NURS 721; NURS 685 or NURS 607. Corequisite(s): NURS 734.

This course focuses on the implementation of the professional role of the Pediatric Acute Care Nurse Practitioner (PNP-AC). Particular emphasis is placed on the role components of the nurse practitioner in pediatric acute care. Applications of nursing, biological and behavioral science are emphasized in the advanced clinical assessment, clinical decision making and management skills needed to care for complex, unstable acutely and chronically ill children and their families. The role of the advanced practice nurse in promoting optimal child/family outcomes is emphasized.

L/R 736. Advanced Principles of Pediatric Acute Care. (L) Murphy, K.; Verger; Lipman. Prerequisite(s): NURS 734; NURS 735. Corequisite(s): NURS 737.

This course expands the student's understanding evidenced based care for infants, children, and adolescents with complex acute and chronic health conditions. Emphasis is placed on advancing a framework for practice based on a synthesis of knowledge from biological, behavioral, and nursing sciences through clinical decision making. The student continues to gain the necessary

clinical management skills to provide specialized patient centered care across the entire pediatric age spectrum from complex chronic illness to physiologic deterioration and life threatening instability with emphasis on the patient and family as a full partner in decision making.

737. Pediatric Acute Care Nurse Practitioner: Professional Role and Advanced Clinical Practice. (L) Verger; Lipman; Schucker; Campisciano. Prerequisite(s): NURS 734; NURS 735. Corequisite(s): NURS 736.

This course focuses on the implementation of the professional role of the Pediatric Acute Care Nurse Practitioner (PNP-AC). This course adds to the students' previous knowledge and skills and prepares them to deliver care to children of any age who require frequent monitoring and intervention. Applications of nursing, biological and behavioral science are emphasized in the advanced clinical assessment, clinical decision making and management skills needed to care for complex, unstable acutely and chronically ill children and their families.

740. Advanced Practice Concepts for the Childbearing Family. (A) Steele.

The seminar will provide students with the skills necessary to provide primary health care to high risk infants in ambulatory settings. Course material will include detailed physical assessment skills of the infant through the first year of life. The clinical component will include home visits and experience in the ambulatory and long term care settings.

741. Management of Children with Acute and Chronic Conditions: Nursing of Children in the Community Advanced Clinical. (L) Deatrick; Lipman; Murphy, K. Prerequisite(s): NURS 724, 725. Summer Session II.

This clinical course focuses on the implementation of the role of the advanced practice nurse with particular emphasis on providing continuity of care for children with specialized health needs across their transitions in sites of care delivery and throughout phases in the cycle of their illnesses. Application of nursing, biological and behavioral science is emphasized in the community aspects of clinical assessment and management of children with health care needs and their families.

743. Fetal Evaluation. (B) Stringer. Prerequisite(s): NURS 607.

This course focuses on identifying at risk and high risk maternal fetal dyads,

developing knowledge relating to assessment of fetal well being, and understanding the implications of obstetric, non obstetric, and fetal complications on the management of the high risk pregnancy. Additionally the course provides an understanding of the scientific basis for new technologies used to evaluate at risk and high risk populations. Information about the physics of ultrasound, pulse echo imaging, and doppler techniques will be provided. Students must be able to practice ultrasound skills while in this course.

746. Evidence-Based Practice for Nurse Anesthetists I. (L) Magro; Lynn; Gidaro. 12 Week Summer Session.

This course examines the evidence-based research to determine whether the procedures and techniques performed by nurse anesthetists are supported by the literature. Population specific topics of concern to nurse anesthetists are discussed. Student led seminars will guide the classroom discussions.

747. Evidence-Based Practice for Nurse Anesthetists II. (A) Magro; Lynn; Gidaro. Prerequisite(s): NURS 746.

This course examines the evidence-based research to determine whether the procedures and techniques performed by nurse anesthetists are supported by the literature. Population specific topics of concern to nurse anesthetists are discussed. Student led seminars will guide the classroom discussions.

748. Leadership Development in Healthcare. (A) Fidyk.

This course will provide the conceptual and theoretical framework for examining the concept of leadership within the contexts of health systems, health professionals and health policy. It will focus on characteristics of personal and professional leadership, change theory, and the application of critical thinking to the analysis of work environments, systems and the politics of health.

749. History, Health and Social Policy. (B) D'Antonio.

This course explores the impact of historical ideas, events, and actors on current issues in health and illness care. Topics include the movement from hospitals to health care systems; the changing definitions of professionalism and professional practice patterns; and the ways historical context shapes definitions of leadership roles and theoretical knowledge.

750. Inquiry and Nursing. (A)

Richmond. For doctoral students in nursing.

This course introduces students to the process of intellectual inquiry. It explores the intellectual foundations of scholarly disciplines in general and the discipline of nursing in particular. Emphasis is placed on the process of knowledge development, with particular emphasis on historical, philosophical, positivist, and gendered and phenomenological ways of knowing. Emphasis is also placed on having students develop their particular intellectual approach to disciplinary inquiry and on formulating ideas for publications and presentations.

753. Evolving Nursing Science. (B)

Sommers; Riegel. Prerequisite(s): NURS 750. For doctoral students in nursing.

A consideration of contemporary nursing research as it pertains to the current state of the art and directions for future study. Advanced analysis of methodology, assumptions, and theoretical structures that underpin the work.

754. Quantitative Research Design and Methods. (B) Pinto-Martin;

Meghani. Prerequisite(s): Students must have completed at least one doctoral-level statistics course. The current doctoral recommendations include: SOCI 535; SOCI 536; STAT 500; STAT 501; PUBH 501; EPID 524; EPID 525. Please contact course faculty for permission for courses taken outside of the above recommendations. For doctoral students in nursing.

This one semester survey course provides an overview of quantitative clinical research design and methods. Ethical and legal considerations in human subjects research, access to patient populations, sampling designs and power analysis, experimental and non-experimental designs, measurement of variables, data collection techniques, and data management are included. This course is intended for doctoral students in the health sciences.

L/R 764. Advanced Technologies & Clinical Decisions in Acute Care. (A)

Becker; Griffith; Bartke. Prerequisite(s): NURS 607, 657.

This fieldwork course focuses on development of a systematic approach to advanced physical assessment, the use of diagnostic technologies and the development of a diagnostic reasoning as it applies to patient management of the acutely ill and injured. Emphasis is placed on development of competence to perform

a comprehensive history and decision making for the management of acutely ill patients.

768. Role of the Clinical Nurse Specialist. (A) Becker; Pawlow; Fisher.

This clinical course provides students the opportunity to apply CNS theory to practice and enables students to develop strategies to overcome barriers to safe, quality healthcare delivery. Students acquire knowledge and skills characteristic of CNS practice particularly as it relates to clinical judgment, facilitation of learning, advocacy and moral agency, caring practice and response to diversity.

769. Clinical Nurse Specialist

Clinical I. (C) Becker; Dubendorf; Muller. Prerequisite(s): NURS 657. Corequisite(s): NURS 768.

This clinical course provides students the opportunity to apply CNS theory to practice and enables students to develop strategies to overcome barriers to safe, quality healthcare delivery. Students acquire knowledge and skills characteristic of CNS practice particularly as it relates to clinical judgment, facilitation of learning, advocacy and moral agency, caring practice and response to diversity.

770. Clinical Nurse Specialist

Clinical II. (L) Becker; Dubendorf; Muller. Prerequisite(s): NURS 657, NURS 768, NURS 769. Also Offered in Summer 12 Week Session.

This clinical course focuses on the application of CNS theory to practice. Students focus on furthering the development of the knowledge and skills related to the core competencies of the CNS. Strategies to improve provider and system issues related to the provision of care to the population of interest are developed, implemented and evaluated. Developing leadership in the development of system-wide or healthcare policy is promoted. Advocating for the individual, family, caregiver and population of interest needs within the context of clinical practice and policy making is encouraged.

SM 775. Post-Masters Psychiatric Mental Health NP Clinical Practicum & Seminar. (L) Cacchione; Josey;

Mulligan; Leahy. Prerequisite(s): Masters degree in Psychiatric Mental Health Advanced Practice Nursing and approval of Program Director. By Permission Only.

This clinical course prepares individuals have completed a Psychiatric Mental Health Clinical Nurse Specialist or an Adult Psychiatric Mental Health Nurse Practitioner program to meet the clinical

requirements for certification as a Family Psychiatric Mental Health Nurse Practitioner. This clinical practicum and seminar will complement previous education in advanced practice Psychiatric Mental Health nursing. The focus of the course is on skill development in therapeutic relationships with clients, interviewing, assessing client strengths and needs for mental health services, selecting and implementing interventions including psychopharmacologic agents, and maintaining a role in a mental health setting which allows active collaboration with other health professionals. A minimum of 16 precepted practicum hours per week is required in a selected community or institutional setting and a minimum of 250 total precepted clinical hours during the semester is required. In addition, there will be on-campus seminars and individual and group supervision conference calls throughout the semester.

776. High Risk Neonate Theory II. (L) Verger; Steele. Prerequisite(s): NURS 731, 733. Corequisite(s): NURS 777.

This course examines specific pathophysiological mechanisms which may result in body system failure. Strategies for clinical management are examined based on a synthesis of biological, behavioral, medical, pharmacological, and nursing knowledge. Theoretical analysis of the roles of the advanced practitioner with critically ill patients is emphasized.

777. High Risk Neonatal Clinical II. (L) Verger; Steele. Prerequisite(s): NURS 731, 733. Corequisite(s): NURS 776.

This clinical course is designed with emphasis on continued development of advanced clinical skills in the care of critically ill children. Emphasis is placed on integration of the roles of the advanced practitioner. This course adds to the student's previous knowledge and skills in advanced practice and prepares them to manage care of critically ill children.

778. High Risk Neonatal Clinical III. (L) Verger; Steele. Prerequisite(s): NURS 776, 777.

This clinical course is designed with emphasis on continued development of advanced clinical decision-making skills in the care of critically ill children. Emphasis is placed on knowledge and skills that allow the advanced practitioner to efficiently and effectively manage children who are dependent upon or assisted by technological devices to carry out life processes.

780. Health Care of Women and Primary Care. (L) Grube; Nagtalon-Ramos. Corequisite(s): NURS 657.

The focus of this course is a clinical approach to primary care problems commonly encountered by women in an ambulatory setting. This course provides the women's health care nurse practitioner and midwifery student with the knowledge and problem solving approach to assist individuals with the most common health problems, including acute episodic illness as well as stable chronic disease. The concepts of health promotion and health maintenance are integrated throughout the curriculum.

781. (NURS686) Well Women Health Care, Theory. (A) Durain; Grube; Nagtalon-Ramos. Prerequisite(s): NURS 607, 657, 780. Corequisite(s): NURS 782.

This course focuses on the management and evaluation of physical, emotional, socio-cultural and educational needs of gynecologic primary health care of women from adolescence through post-menopausal years. The content is directed at expanding the expertise of the student in meeting the primary women's health care needs in contemporary society. Social influences that have an impact on women's lives are also explored.

782. Well Women Health Care, Clinical. (A) Durain; Grube; Nagtalon-Ramos. Prerequisite(s): NURS 607, 657, 780. Corequisite(s): NURS 781.

This clinical course further prepares students in understanding and developing the Women's Health Care Nurse Practitioner and Nurse-Midwifery roles. This clinical course focuses on the management and evaluation of physical, emotional, socio-cultural and educational needs of gynecologic primary health care needs of women from adolescence through post-menopausal years. Emphasis is placed on promoting and maintaining wellness, clinical decision making, systematic health interview, physical assessment, interpretation of laboratory findings, and diagnosis and treatment of gynecological problems.

783. Health Care of Childbearing Women, Theory. (B) Trout; Lewis, J.; Grube. Prerequisite(s): NURS 781, 782. Corequisite(s): NURS 784.

The antepartum course builds upon the well-woman health care course. The focus is management of prenatal care for the childbearing family. Conceptual threads of public policy and ethics are integrated within the content to help students to identify broader implications for prenatal

care. Content includes theory and practice related to nurse-midwifery/ nurse practitioner management of the normal pregnant woman, and nurse-midwifery/ nurse practitioner management and strategies to reduce selected obstetric complications.

784. Health Care of Childbearing Women, Clinical. (B) Trout; Lewis, J.; Grube. Prerequisite(s): NURS 781, 782. Corequisite(s): NURS 783.

This course focuses on the management and evaluation of the childbearing women and their families in primary care settings. The course presents the opportunity to implement the role of the Nurse Practitioner with the childbearing woman and her family. The focus is on comprehensive physical, psychosocial and educational management of women and their families during pregnancy and postpartum.

785. Integration I. (L) Stringer; McCool; Reale; Nagtalon-Ramos. Prerequisite(s): NURS 783, 784.

Intensive integration of theory and clinical practice in women's health care with emphasis on ambulatory care. Clinical practice in all areas of ambulatory women's health care, teaching rounds, case presentations, and seminars with professional colleagues.

786. Integration II: Midwifery Integration. (A) McCool; Reale. Prerequisite(s): NURS 783, 784. Corequisite(s): NURS 785.

Intensive integration of theory and clinical practice in women's health care with emphasis on intrapartum, postpartum, and newborn care. Clinical practice during the intrapartum and postpartum, teaching rounds, case presentations, and seminars with professional colleagues.

787. Intrapartum / Postpartum / Newborn Care, Theory. (L) McCool; Reale ; Stringer. Prerequisite(s): NURS 783, 784. Corequisite(s): NURS 788.

Anatomy and physiology relevant to the care of the women and their families during the intrapartum, postpartum and newborn periods. Includes management of selected obstetrical emergencies and medical complications.

788. Intrapartum / Postpartum / Newborn Care, Clinical. (L) McCool; Reale.

Clinical care and management of women, newborns and their families during the intrapartum, postpartum and newborn periods. Includes management of selected

obstetrical emergencies and medical complications. Clinical assignments related to module objectives.

SM 791. Clinical Fieldwork in Nurse Anesthesia Practice I. (A) Magro; Lynn; Briel.

This course provides students the opportunity to integrate theory into practice within the clinical setting. The focus is on the development of diagnostic, therapeutic, ethical and cultural judgments with the perioperative patient. Students progress from the care of healthy patients undergoing minimally invasive surgical procedures to the more complex patient with multiple health issues. The student begins to develop an advanced practice nursing role that integrates role theory, nursing theory, and research knowledge through weekly seminars. Scope of practice, role development and nursing interventions will be introduced and explored in the classroom, and principles will be applied in the clinical practicum.

SM 792. Clinical Fieldwork in Nurse Anesthesia Practice II. (B) Magro; Lynn; Briel. Prerequisite(s): NURS 791.

This course provides the opportunity for students to integrate theoretical knowledge and research finding into practice within the clinical setting. Students progress by providing anesthesia care for patients with more complex health problems. Techniques for managing the acute pain of clients are emphasized. Anesthetic requirements as dictated by patient assessment including the surgical procedure are studied in greater depth. The student now possesses the ability to combine theories and skills in selected clinical situations. The guidance of CRNA faculty preceptors contributes to the development of the student's critical thinking.

SM 793. Clinical Fieldwork in Nurse Anesthesia Practice III. (L) Magro; Lynn; Briel. Prerequisite(s): NURS 792. 12 Week Summer Session.

This course focuses on the delivery of anesthesia care within advanced nursing practice in a broad range of clinical situations for patients with multiple, complex health problems. Through refinement of assessment and management skills, critical thinking is further developed. Students progress by providing anesthesia care for special populations of patients with simple and complex health problems. The guidance of CRNA faculty preceptors contributes to the development of the student's critical thinking. Collaborative practice within a care team model is emphasized and with supervision, the

student assumes more overall responsibility for the quality of care for the patients throughout the perioperative experience.

SM 794. Nurse Anesthesia Residency I. (A) Magro; Lynn; Briel. Prerequisite(s): NURS 793.

This course is the first of two residencies that provide the nurse anesthetist student the opportunity to attain competencies within the Certified Registered Nurse Anesthesia (CRNA) scope of practice. Throughout the residency, the nurse anesthesia resident will utilize appropriate clinical judgment to manage the complex medical, physical and psychosocial needs of clients in the perioperative phases. Further refinement of the patient assessment, anesthesia administration, and critical thinking skills is emphasized. Students progress by providing anesthesia care for patients throughout the continuum of health care services. The guidance of CRNA faculty preceptors contributes to the development of the independence of the CRNA student. Collaborative practice within a care team model is emphasized and the student assumes more overall responsibility for the quality of care for the patients throughout the perioperative experience, with clinical support as required.

SM 795. Nurse Anesthesia Residency II. (B) Magro; Lynn; Briel. Prerequisite(s): NURS 794.

This course is the second of two residencies that provide the nurse anesthetist student the opportunity to attain competencies within the Certified Registered Nurse Anesthesia (CRNA) scope of practice. Throughout the residency, the nurse anesthesia resident will utilize appropriate clinical judgment to manage the complex medical, physical and psychosocial needs of clients in the perioperative phases. Further refinement of the patient assessment, anesthesia administration, and critical thinking skills is emphasized. Students progress by providing anesthesia care for patients throughout the continuum of health care services. The guidance of CRNA faculty preceptors contributes to the development of the independence of the CRNA student. Collaborative practice within a care team model is emphasized and the student assumes more overall responsibility for the quality of care for the patients throughout the perioperative experience, with clinical support as required.

796. Diagnosis and Management of Adult Gerontology Acute Care Patients I. (A) Becker. For Streamlined Adult Gero Program Students Only.

This on-line, didactic course is designed for the practicing nurse practitioner or clinical nurse specialist who seeks to gain additional knowledge and skills related to the care of adult gerontology acutely ill patients with a specific focus on cardiovascular and pulmonary systems, thoracic issues, infectious processes, wound healing and diabetes. Particular focus is placed on specific issues related to the older adult such as frailty, dehydration, loss of functional mobility, falls, and other geriatric syndromes. The basics of ECG, CXR and PFT interpretation, ABG analysis and ventilator modes are highlighted. This course examines the epidemiologic, assessment, diagnostic, management and evaluation of acutely or critically ill adults across the adult-older adult age spectrum. An evidence-based approach to nursing and medical management including pharmacologic and non-pharmacologic modalities is emphasized.

797. Diagnosis and Management of Adult Gerontology Acute Care Patients II. (B) Becker. For Streamlined Adult Gero Program Students Only.

This online didactic course, designed for the practicing nurse practitioners or clinical nurse specialists seeking to gain knowledge and skills relative to care of adult gerontology acute care patients, focuses on the medical and surgical issues of the neurological, renal, gastrointestinal, hematological, oncologic and orthopedic systems. This course examines the epidemiology, assessment, diagnosis, management and evaluation of acutely or critically ill adults across the adult-older adult age spectrum. An evidence-based, interprofessional team approach to the nursing and medical management of patients is emphasized.

SM 798. Adult Gerontology Acute Care NP: Professional Role & Clinical Practicum for Primary Care Prepared Providers. (C) Becker.

Prerequisite(s): NURS 796 completion. For Streamlined Adult Gero Program Students Only.

This online didactic course and accompanying clinical fieldwork focuses on issues essential to the implementation of the role of the Adult Gerontology Acute Care Nurse Practitioner. Clinical fieldwork focuses on the unique assessment, diagnosis, management and evaluation of acutely, critically and complex chronically-ill adults, across the adult age continuum,

experiencing acute, urgent and emergent conditions, using both physiologically and technologically derived data. Evaluating for physiologic instability and potential life-threatening conditions is emphasized. Attention is given to the typical and atypical presentation of syndromes and constellation of symptoms exhibited by adults and older adults experiencing complex acute, critical and complex chronic illness. Issues related to the transition of patients through the health care system are explored. Collaboration between the nurse practitioner, patient, family and interprofessional healthcare team are encouraged.

799. MSN Clinical Remediation. (M)

Students whose clinical performance would benefit from additional clinical exposure in order to demonstrate the expected competencies are, with course faculty and faculty advisor approval, eligible to register for NURS 799. This experience will be allotted no more than one credit unit and must be completed in a time frame not to exceed one academic semester. A course may be remediated only one time.

SM 800. Dissertation Seminar I. (A)

Bowles, K.; Lake. Prerequisite(s): NURS 750, 753, 754, 813, 2 semesters of Statistics, plus six concentration courses. For doctoral students in nursing.

Advanced study and research in nursing leading to the completion of the dissertation proposal.

SM 803. Clinical Scholars in the Discipline of Nursing. (E)

Clinician Educators from the Standing Faculty. Prerequisite(s): Selection as a Hillman Scholar in Nursing Innovation or at the recommendation of the student's PhD academic advisor. First Fall-Spring post-BSN semesters in the PhD program for Hillman Scholars.

This 2-semester course is designed to enhance the understanding of the practice of nursing as an intellectual discipline for doctoral students who have limited clinical practice experience prior to pursuing the PhD. It consists of individualized clinical experiences that are integrally related to the student's area of research interest and which are facilitated by clinician guides in a variety of settings. Students actively participate in seminars that focus on examining the health needs of individuals and vulnerable patients, the praxis of nursing and its place within the complex health care delivery system, health policy and society at large. Research informing practice and practice informing research are

highlighted using the clinical practice experiences as case exemplars.

NURS 803 is a course designed specifically for two groups of PhD students: the Hillman Scholars in Nursing Innovation and post-baccalaureate students completing an MS in passing who have limited clinical experience as a professional nurse. This course is designed to expose students to carefully selected clinical experiences that provide opportunities to build a clinical appreciation of the practice of nursing as an intellectual discipline, to gain an enhanced understanding of the health care delivery system, and to examine the intersection of research, policy, and practice at the frontlines of nursing practice. To this end, this course combines the clinical experiences with a weekly seminar facilitated to dissect common issues experienced by vulnerable patients and families across care settings and specialties, to critically examine the contributions of nursing science to that care, and to examine how the health care system contributes or detracts from optimal care.

SM 811. Historical Thought in Nursing. (B)

Fairman. For doctoral students in nursing.

A seminar open to enrolled doctoral students who plan to conduct historical research as some aspect of their program. Meets for one semester on a schedule determined by participants and faculty.

SM 813. Qualitative Paradigm Empirical Nursing Research. (A)

Deatrick. Prerequisite(s): NURS 750. For doctoral students in nursing.

Study of selected qualitative paradigm empirical research approaches, including design and methodology. Critique of selected qualitative research reports from the literature of nursing and related disciplines. Fieldwork exercise and research proposal required.

SM 814. Doctoral Seminar: Ethics and Nursing. (K)

Deatrick. For doctoral students in nursing.

A critical review of the theoretical and empirical literature dealing with bioethics, nursing ethics, moral development, women's ethics and specific ethical concerns in health and illness care. Students will study topics related to their own interests/needs, guided by the instructor in relation to the discipline of ethics.

SM 817. Theoretical Perspectives of Growth and Development: A Health Care Perspective. (A)

Medoff-Cooper; Deatrick; Lipman; O'Sullivan.

This seminar will explore issues related to the theoretical perspectives of growth and development during childhood. Areas of emphasis will include: methodological issues related to research of childhood growth and development, the analysis of developmental data, and measurement issues common to research of development. Included in the discussion will be an analysis of theories in relationship to research of childhood development. The seminar will conclude with an agenda for future directions of research of growth and development.

SM 818. Families and Research. (J)

Deatrick. For doctoral students in nursing.

This seminar will explore issues related to research of families. Included in the ongoing discussion will be an analysis of nursing and other theories in relationship to research of families. Methodological issues related to research of families will be discussed, as will the analysis of family data and measurement issues common to research of families. The seminar will conclude with an agenda for future directions to research of families.

SM 819. Seminar on the Social History of Nursing.

Fairman. For doctoral students in nursing.

This course will involve a guided review of the pertinent literature relating to the history of technology in 20th century America. The focus will include a critical examination and review of the social origins and implications of technological development and diffusion in healthcare. Various theoretical frameworks in the history of technology will be closely examined in attempt to assist the student in the development of their own framework.

SM 821. (SOC1821) Proseminar in Health Outcomes Research. (K)

Lake; Aiken. Prerequisite(s): Prior coursework at undergraduate or masters level in statistics and quantitative methods.

This the first of a two-course sequence designed for doctoral students interested in conducting health outcomes research. The first course (821) focuses on conceptual, methodological, statistical, feasibility and data issues central to the conduct of health outcomes research; the second course (822) focuses on applying health outcomes research through the development and implementation of a research project. In the first course Penn faculty researchers will use their ongoing studies to illustrate

how study design, sampling, measurement, and advanced statistical techniques can be employed to address the various challenges inherent in health outcomes research. In the second course, students will design and implement a health outcomes research project.

SM 822. (SOC1822) Applications of Health Outcome Research. (C) Aiken. Prerequisite(s): Prior coursework at undergraduate or masters level in statistics and quantitative methods, Nursing 821/Sociology 821 is preferred.

This the second of a two-course sequence designed for doctoral students interested in conducting health outcomes research. The first course (821) focuses on conceptual, methodological, statistical, feasibility and data issues central to the conduct of health outcomes research; the second course (822) focuses on applying health outcomes research through the development and implementation of a research project. In the first course Penn faculty researchers will use their ongoing studies to illustrate how sampling, study design, measurement, and advanced statistical techniques can be employed to address the various challenges inherent in health outcomes research. In the second course, students will design and implement a health outcomes research project.

SM 823. (PUBH539) Designing Interventions to Promote Health and Reduce Health Disparities. (K) Jemott; Teitelman. Doctoral Students Only.

Advanced analysis, design and evaluation of interventions to promote health and reduce health disparities with a focus on underserved vulnerable minority or ethnic populations, through culturally competent research, education and clinical practice. Areas to be evaluated include: -- Health disparities as it relates to health promotion and disease prevention behavioral intervention research in vulnerable communities -- Concepts of marginalization, race, ethnicity, class, gender and culture as it relates to health disparities -- Social-psychological theoretical and research approaches related to developing culturally congruent health promotion interventions to reduce health disparities for vulnerable populations -- The use of elicitation, focus groups and ethnographic techniques to tailor health behavior theory to meet the needs of the population -- Culturally competent research methodologies, involving education and/or clinical practice, e.g. culturally competent measures, recruitment, retention, and

informed consent in hard to reach populations

-- Community participatory research as a strategy for working with the community to build research partnership and build capacity for sustained health promotion initiatives -- Health promotion intervention strategies for reducing health disparities in vulnerable communities -- Strategies to evaluate the effectiveness of interventions using randomized controlled trials (RCTs) in community and clinical settings - - Strategies for tailoring successful evidenced-based health promotion interventions to a variety of different populations for use in clinical trials and community settings -- Examine approaches for the translating and disseminating evidenced-based intervention research

SM 824. Health Equity: Conceptual, Linguistic, Methodological, and Ethical Issues. (I) Sommers. For Doctoral Students Only.

The course focuses on advanced analysis and evaluation of theories, concepts, and methods related to health equity. Topic areas include models and frameworks of health equity; linguistic choices related to equity, disparity, and vulnerability; role of economics, class, gender, sex, sexuality, race, and ethnicity; health equity in special populations; and issues in health policy, research ethics, and research methods. Emphasis is on advanced discourse and analysis of health equity theory and research.

SM 825. Proseminar on Integrative Science in Aging. (B) Cacchione; Ersek. For Doctoral Students Only.

SM 826. Advanced Qualitative Research Methods. (B) Kagan. For Doctoral Students Only.

The course extends beginning qualitative research methods skills to a more advanced level. Students planning a dissertation or career focus in qualitative or mixed methods may use the course to refine interest and skill. The focus of the course centers on interactionist perspectives and collective analysis though methods tangential to these perspectives. Standpoint and participatory methods and analysis may be considered given sufficient student interest. Students are actively involved in selection and critique of seminal and critical readings. Students must have at their disposal a suitable dataset with commensurate permissions or have plans to collect qualitative data amenable to analysis during the course term. This data

base can be from previous research proposals and fieldwork can be used as the building blocks for the course assignment(s). The course will focus on data collection, analyses, interpretation, and presentation of results. Skill building will center on collection and management of data; analytic technique including comparative, narrative, and text analysis; development and management of coding schemas; abstraction and development of situation specific theory; and dissemination and diffusion of findings, theories, and relevance to similar phenomena and use in practice.

SM 827. Self-Care of Chronic Illness. (M) Riegel. For PhD Students Only.

This course introduces the history, definitions, predictors, measurement, and outcomes of self-care in chronic illness. Historical, classic and current literature from various disciplines will be studied to give students a broadened perspective of the self-care construct and the issues that patients face when dealing with chronic illness.

SM 828. Response to Chronic Illness: Theory and Research. (A) Riegel. Prerequisite(s): Permission of faculty.

Millions of people of all ages live with chronic illness(es). A diagnosis of a chronic illness is a life-changing event, causing disruption and a sense of loss for many. Common early responses are stress, anxiety, depression, fear, and anger. Over time, with support and experience with the illness, many adjust. But, others report persistent feelings of loss due to physical, emotional, spiritual/existential, social, occupational, and/or financial influences of chronic illness. Those who adjust the best typically find a way to return a sense of normalcy to their lives. Loved ones and caregivers are equally affected by chronic illness and much has been written in recent years about caregiver burden. However, some individuals (caregivers and patients) report positive responses to illness, including a deepened purpose for living and a reordering of life priorities.

The focus of this course is on individual responses to chronic illness- the person diagnosed and his/her loved ones. This course is intended to complement N818, which focuses on families and dyads dealing with chronic illness. In this course we will explore the major theoretical perspectives that underlie this field. The literature describing common responses of both those diagnosed and their loved ones as well as the social and cultural context that helps explain the responses of individuals facing chronic illness will be

examined. Methods used to study chronic illness will be explored in depth.

SM 829. Measurement of Physiologic Variables Related to Health Outcome Disparity. (H) Sommers. For Pre-Doctoral and Post-Doctoral students interested in describing health disparities and developing and testing interventions in vulnerable women, children, and families.

This graduate course is an advanced exploration of biometric methods (branch of science that includes the measurement of physiological variables and parameters) and their use in quantitative research. A particular focus will be on biological measures that can be used as outcome variables to evaluate interventions to promote health and health equity, and reduce health outcome disparities in vulnerable or marginalized populations.

Areas to be evaluated include: * Measurement theory and instrument science as they relate to biological signals; role of biometrics in health outcome disparities research * Ethical considerations and how they relate to biometrics; mitigating perceived threats (profiling, stereotyping); the role of human subjects considerations; the responsible conduct of research * Derivation and types of biologic signals; time-based characteristics * Accuracy and precision of biologic measures; random and non-random error; application and exemplars of strategies to determine accuracy and precision * Role of biological rhythms in biometric measurement; analysis of multiple data points and repeated measures of biological variables * Methods relative to vulnerable women, children, and families: genetics; environmental contaminants; digital image analysis; hormones, metabolites; drugs and alcohol

SM 830. (GSWS830) Conducting Research in Global Women's Health. (A) Teitelman. Prerequisite(s): Completion of course in global health (this may include a reputable online course eg: Coursera), or equivalent background (eg. global health field experience). Permission of Instructor. For graduate and professional students from any field with an interest in global women's health; Masters students by permission of instructor.

An introduction to theoretical and methodological issues as they relate to conducting research in global women's health. Advanced analysis of historical, social, cultural, economic, political, technological and geographical contexts as they influence the health of girls and women across the lifespan and their

relation to health care systems as both clients and providers. This includes contextual issues that constrain the provision & receipt of adequate healthcare.

A critical examination of theoretical and methodological issues pertaining to research on women and girls conducted around the world across disciplines. A focused and intensive exploration of place as it pertains to women and girls formal and informal structures of health care delivery as those needing and/or seeking health care, and as those providing health care to others. Students will examine the multiple dimensions and qualities of these endeavors (e.g. activity, power, control, visibility, value, and remuneration) and the intersection of gender and health - locally, globally and across borders. Students will focus their examination on the implications of seeking and providing health care for women's and girls' health and well-being. By examining issues in local and global contexts and across geographical boundaries, students will have the opportunity to challenge gendered, class, political, and cultural assumptions related to women's health.

831. Advanced Topics in Health Informatics. (B) Bowles. Prerequisite(s): NURS 651, NURS 551, SYS 528, or permission of instructor.

This course is designed to survey a broad range of advanced topics in the field of health informatics. Course faculty and invited speakers will provide the content for weekly meetings conducted in a blended environment (both on-line and in the classroom). Each week, students will listen to a lecture and then participate in a group discussion. Approximately half of these lecture/discussion sessions will take place in a "live" classroom, while the remainder will be available asynchronously in an online setting (i.e. using Blackboard). There will be no textbook, however each speaker will provide links to web-based resources that provide either background information or further elaboration of their topic. A group of students (depending upon size of class, probably 2-3 per topic) will take the lead for each topic, communicating with the speaker and facilitating the class discussion. As a final project, these student groups will also develop a more complete web resource for their selected topic.

SM 832. Laboratory Based Biological Measures. (A) Libonati; Muthukumar. Prerequisite(s): Biology, Chemistry, Physiology, and Permission of Instructor. For Doctoral and Post-Doctoral students interested in biobehavioral research laboratory techniques.

This graduate course is an advanced, mentored exploration of biological measurement techniques used in nursing research. This course will provide an opportunity to gain a broad-based understanding of laboratory methodology, biomarkers, and translational research. Concepts of biological sample processing, storage, quality assurance and control and analysis will be covered. Laboratory measurements with a focus on genetic regulation of biomarkers related to stress, pain, and sleep/fatigue will be covered.

SM 833. Measurement of Health-Related Behavior and Determinants.

Karen Glanz. This one semester seminar will provide a detailed overview of measurement of health-related behaviors and determinants of behavior. The course will cover characteristics of measures, data collection, and how to apply the science of measurement to specific health research questions. The course will emphasize This one semester seminar will provide a detailed overview of measurement of the intersection of self-report measures with biological and physical measures, and the use of newer technologies to collect data and improve data quality. Students will integrate concepts and topics covered in the course as they work on a measurement project in their specific area(s) of interest and engage in problem-solving with their peers. This course is intended for doctoral student and advanced masters-level students in the health sciences.

SM 836. Patient-Reported Symptoms & Outcomes for Clinical Research. (A) Richmond.

Patient-reported symptoms and outcomes are central to health science and have assumed increasing importance in the broader research arena. The research goal, conceptual clarity of variables, participant characteristics, instrument psychometrics, degree of coarseness/specificity, and participant burden are all essential to consider in selecting patient-reported symptom and outcome measures. This course focuses on linking study needs, design considerations, theoretical concepts, empirical measures, data collection strategies, and analytic approaches to patient-reported symptoms and outcomes for clinical research. Specific symptoms

and outcomes examined in detail may include functional status, quality of life, health status, well-being, sleep, fatigue, weight, pain, shortness of breath, depression, stress, and nausea but each semester will be tailored to the research interests of the seminar participants.

SM 837. Web-based Research

Methodology. (A) Im. Prerequisite(s): Enrollment in a Doctoral Program.

This doctoral elective course will provide an introduction to Web-based research methods in health-related disciplines. This course will examine research methods that have been adapted to the study of human subjects through the Web. This course will have particular emphasis on quantitative and qualitative empirical methods using the Web as a data collection medium. Another important feature of this course will be intensive analysis of ethical and methodological issues conducting research through the Web. Areas to be analyzed include: types of Web-based research; advantages and disadvantages of Web-based research; vehicles (e.g. funding, mentoring) that have supported Web-based research; human subject protection issues; issues/concerns in recruitment and data collection in Web-based research; and professional vehicles (e.g. scholarly publication, lay publications, speaking

forums) that have helped disseminate the knowledge derived from Web-based research.

890. Nursing Doctoral Teaching Residency. (A) Designated Member of the School of Nursing Grad Group. For Nursing Doctoral Students Only.

The purpose of this required one semester teaching residency is to enhance the expertise of students in the role of educator. The residency will be tailored to the student's individual learning needs. At the minimum, students with no or minimal prior teaching experience will gain a beginning level of expertise in course planning, course evaluation, dealing with difficult student situations, test construction, paper assignment construction and grading, content delivery methods, as well as other aspects of the faculty teaching role. Students with more extensive teaching experience will tailor their residencies with their residency supervisor to enhance their expertise in these various areas.

897. Nursing Doctoral Research Residency. (A) Designated Member of the School of Nursing Grad Group. For Nursing Doctoral Students Only.

The purpose of this required one semester research residency is to enhance student

research training early in the doctoral program by providing a mentored research experience. The residency is designed to be a tailored hands-on experience to provide students with exposure and the opportunity to participate in one or more aspects of an on-going research project. Research residencies are experiential activities designed to meet the student's individual learning needs. At the minimum, students with no or minimal prior research experience will gain a beginning level of experience on a variety of components of an ongoing research project. Students with more extensive research experience will tailor their residencies with their residency supervisor to enhance their expertise in these various areas.

900. Directed Study. (C)

Must be arranged with the written permission of the sponsoring faculty member prior to registration.

995. Dissertation. (C)

Dissertation General Tuition

OPERATIONS, INFORMATION AND DECISIONS (WH) {OIDD}

. ANALYTICS FOR SERVICES.

L/R 101. An Introduction to Operations, Information and Decisions. (C) Staff.

OIDD 101 explores a variety of common quantitative modeling problems that arise frequently in business settings, and discusses how they can be formally modeled and solved with a combination of business insight and computer-based tools. The key topics covered include capacity management, service operations, inventory control, structured decision making, constrained optimization and simulation. This course teaches how to model complex business situations and how to master tools to improve business performance. The goal is to provide a set of foundational skills useful for future coursework at Wharton as well as providing an overview of problems and techniques that characterize disciplines that comprise Operations and Information Management.

105. Developing Tools for Data Access and Analysis (VBA and SQL Programming).

This course provides an introduction to the construction of data analysis tools that are commonly used for business applications, especially in consulting and finance. The course builds on the spreadsheet and analytical skills developed in OPIM101, providing a much more extensive treatment of spreadsheet application development and database management. The first portion of the course will focus on programming in VBA, the embedded programming language in the Microsoft Office suite of applications. This will be supplemented with discussion of industry best practice in software development, such as specification development, interface design, documentation, and testing. The second portion of the class will emphasize data access and analysis utilizing SQL, the industry standard language for interacting with database software.

210. Management Information Systems. (C) Staff.

This course provides a broad-based introduction to the management of information technology focusing on three interrelated themes: technology, organization, and strategy. The goal of this course is to equip students with the knowledge and tools to utilize information

systems to pursue a firm's strategic and organizational goals. The course has no prerequisites other than a general interest in the applications of information technology.

221. (ESE 522) Operations Strategy and Process Management. (C) Staff. Cross listed with ESE 522.

This course examines how organizations can develop and leverage excellence in process management. The first module focuses on operations strategy. In these classes, we examine what constitutes an operations strategy and how organizations can create value by managing complexity, uncertainty, and product development. In the second half of the course, we discuss recent developments in both manufacturing and service industries. Specifically, we examine initiatives in quality, lean manufacturing and enterprise-wide planning systems. The course is recommended for those interested in consulting or operations careers, as well as students with an engineering background who wish to develop a better understanding of managing production processes.

222. (LGST222) Internet Law & Policy. (C) Staff. cross listed with LGST 222.

The Internet has become central to business and daily life. This course looks at how courts, legislatures, and regulators confront the major legal issues that the Internet poses. The fundamental challenge is that law comes from governments and other institutions in specific places, but the Internet is global and virtual. Conflicts such as the shutdown of the Napster peer-to-peer file-sharing service and the debate over "network neutrality" regulations for broadband access illustrate the challenge. How does the legal system think about Google, Skype, Twitter, and Facebook? How should it?

223. Service Operations Management. (C) Staff.

240. (LGST240) Gamification for Business.

261. (BEPP261, BEPP761, BEPP961, ESE 567, OIDD761) Risk Analysis and Environmental Management. (C) Kunreuther. Crosslisted with OPIM 761, BPUB 261, 761, 961, and ESE 567. See description under OPIM 761.

For Spring 2015 - If Risk Analy & Env Mgmt is closed after the pre-registration period, please e-mail Kyle Dix at kyledix@wharton.upenn.edu to be added to the wait list for the class. Please be sure to include your Name, Student ID #, what

section you are interested in (OPIM, BPUB, or ESE) and list what class level you are in. We will do our best to accommodate as many students as possible on the wait list.

263. (BEPP263) Environmental & Energy Economics and Policy. Arthur van Benthem.

This course examines environmental and energy issues from an economist's perspective. Over the last several decades, energy markets have become some of the most dynamic markets of the world economy, as they experienced a shift from heavy regulation to market-driven incentives. First we look at scarcity pricing and market power in electricity and gasoline markets. We then study oil and gas markets, with an emphasis on optimal extraction and pricing, and geopolitical risks that investors in hydrocarbon resources face. We then shift gears to the sources of environmental problems (many of which are energy-related), and policy makers can intervene to solve some of these problems. We talk about the economic rationale for a broad range of possible policies: environmental taxes, subsidies, performance standards and cap-and-trade. In doing so, we discuss fundamental concepts in environmental economics such as externalities, valuation of the environment and the challenge of designing international agreements. At the end of the course, there will be special attention for the economics and finance of renewable energy and policies to foster its growth. Finally, we discuss the transportation sector, and analyze heavily debated policies such as fuel-economy standards and subsidies for green vehicles.

290. Decision Processes.

Prerequisite(s): STAT 101 or equivalent strongly recommended.

This course is an intensive introduction to various scientific perspectives on the processes through which people make decisions. Perspectives covered include cognitive psychology of human problem-solving, judgment and choice, theories of rational judgment and decision, and the mathematical theory of games. Much of the material is technically rigorous. Prior or current enrollment in STAT 101 or the equivalent, although not required, is strongly recommended.

291. (LGST206, MGMT291, OIDD691) Negotiations. (C)

Negotiation is the art and the science of creating good agreements between two or more parties. This course develops managerial negotiation skills by mixing

lectures and practice, using cases and exercises in which students negotiate with each other. The cases cover a wide range of problems and settings: one-shot deals between individuals, repeated negotiations, negotiations over several issues, and negotiations among several parties (both within and between organizations). Class participation and case studies account for half the course grade. Students will also write about a negotiation experience outside of class.

292. (LGST292, MGMT292) Adv Topics Negotiation.

This course is designed to teach negotiation principles and to enable students to develop their negotiation skills. This course builds upon and assumes familiarity with the negotiation concepts covered in the prerequisite for this course: "Negotiations." In this course, we extend the study and practice of negotiations, and we develop a deeper understanding of how specific aspects of the negotiation process impact outcomes. Through course lectures, readings, and exercises, students will develop a rich framework for thinking about the negotiation process and acquire tools for guiding the negotiation process.

299. JUDG & DEC MAKING RES IM. (A)

This class provides a high-level introduction to the field of judgment and decision making (JDM) and in-depth exposure to the process of doing research in this area. Throughout the semester you will gain hands-on experience with several different JDM research projects. You will be paired with a PhD student or faculty mentor who is working on a variety of different research studies. Each week you will be given assignments that are central to one or more of these studies, and you will be given detailed descriptions of the research projects you are contributing to and how your assignments relate to the successful completion of these projects. To complement your hands-on research experience, throughout the semester you will be assigned readings from the book *Nudge* by Thaler and Sunstein, which summarizes key recent ideas in the JDM literature. You will also meet as a group for an hour once every three weeks with the class's faculty supervisor and all of his or her PhD students to discuss the projects you are working on, to discuss the class readings, and to discuss your own research ideas stimulated by getting involved in various projects. Date and time to be mutually agreed upon by supervising faculty and students. the 1CU version of this course will involve approx. 10 hours

of research immersion per week and a 10-page paper. The

0.5 CU version of this course will involve approx 5 hours of research immersion per week and a 5-page final paper. Please contact Katy Milkman if you are interested in enrolling in this course: kmilkman@wharton.upenn.edu

311. Business Computer Languages. (C)

This course is taught with the more descriptive title of "Scripting for Business Analytics." "Business Analytics" refers to modeling and analysis undertaken for purposes of management and supporting decision making. The varieties of techniques and methods are numerous and growing, including simple equational models, constrained optimization models, probabilistic models, visualization, data analysis, and much more. Elementary modeling of this sort can be undertaken in Excel and other spreadsheet programs, but "industrial strength" applications typically use more sophisticated tools, based on scripting languages. Scripting languages are programming languages that are designed to be learned easily and to be used for special purposes, rather than for large-scale application programming. This course focuses on the special purposes associated with business analytics and teaches MATLAB and Python in this context. MATLAB and Python are widely used in practice (both in management and in engineering), as are the business analytic methods covered in the course. Prior programming experience is useful, but not required or presumed for this course.

314. (OIDD662) Enabling Technologies. (C) Staff.

Conducting business in a networked economy invariably involves interplay with technology. The purpose of this course is to improve understanding of technology (what it can or cannot enable) and the business drivers of technology-related decisions in firms. We will be discussing some of the new and most disruptive technologies right now to stimulate thought on new applications for commerce and new ventures, as well as their implications to the tech industry as a whole. Topics include social media, online advertising, big data, and cloud computing.

The course will take a layered approach (from network infrastructure) to data infrastructure to applications infrastructure, or direct enablers of commerce) to first, understanding and then, thinking about technology enablers. Network infrastructure layers include fundamentals of wired and wireless

infrastructure technologies such as protocols for networking, broadband technologies - for last (DSL, Cable etc) and other miles (advances in optical networking) and digital cellular communications. Data infrastructure layers include usage tracking technologies, search technologies and data mining. Direct application layers include personalization technologies (CRM), design technologies for content and exchanges, software renting enablers, application service provision, agents and security mechanisms. Finally some emerging technology enablers (such as bluetooth, biometrics and virtual reality) are identified and discussed.

315. Data Base Management Systems. (C) Staff.

Organizations continue to increase their reliance on computerized database management and information retrieval systems. Whether purchasing airplane tickets, managing retail merchandise, processing financial trades or simply sending email, data management defines the modern firm. This course aims to provide students with both a practical and theoretical introduction to the design, implementation, and use of such systems. Students are introduced to the fundamental concepts and principals of data management and gain practical experience by designing and deploying a working system. Throughout the course, case studies are used to illustrate theoretical concepts while acquainting students with innovative commercial uses of these systems.

316. (OIDD661) Systems Analysis, Design, and Implementation. (C) Staff.

At its surface this course introduces students to the management and technical issues associated with planning and designing large-scale computer systems. It does so in part as an elaboration of Fred Brooks's observation that "The technology, the surrounding organization, and the traditions of the craft conspire to define certain items of paperwork." But if that were our only goal, we would soon find ourselves mired in (and probably arguing about) the minutiae of how such paper items ought to be constructed - not a very helpful pedagogical exercise. So then, at a deeper level we seek to understand why the conspiracy endures, and why in spite of it, systems still take too long and cost too much to build as a systems project's team members struggle to understand one another across disparate discourse communities and world views, differences in experience and training, and over long

periods of time. More than anything else, within the context of working with the main tools and techniques of systems analysis and design, this course treats communication, corroboration, and thinking within the boundaries of a technology-oriented project as its primary subjects.

SM 319. Advanced Decision Systems: Evolutionary Computation. (C)

This course is taught with the more descriptive title of "Agents, Games, and Evolution." It explores applications and fundamentals of strategic behavior. Strategic, or game-theoretic, topics arise throughout the social sciences. The topics include--and we discuss--trust, cooperation, market-related phenomena (including price equilibria and distribution of wealth), norms, conventions, commitment, coalition formation, and negotiation. They also include such applied matters as design of logistics systems, auctions, and markets generally (for example, markets for electric power generation). In addressing these topics we focus on the practical problem of finding effective strategies for agents in strategic situations (or games). Our method of exploration will be experimental: we review and discuss experiments, principally computational experiments, on the behavior of boundedly rational agents in strategic (or game-theoretic) situations. Course work includes readings, discussions in class (organized as a seminar), examinations, and a course project on a topic chosen by the participants.

321. Introduction to Management Science. (C) Staff.

Understanding how to use data and business analytics can be the key differential for a company's success or failure. This course is designed to introduce fundamental quantitative decisionmaking tools for a broad range of managerial decision problems. Topics covered include linear, nonlinear, and discrete optimization, dynamic programming, and simulation. Students will apply these quantitative models in applications of portfolio management, electricity auctions, revenue management for airlines, manufacturing, advertising budget allocation, and healthcare scheduling operations. Emphasis in this course is placed on mathematical modeling of real world problems and implementation of decision making tools.

325. (PHIL203) Computer Simulation Models. (C) Staff.

This course focuses on agent-based computational models in the social sciences, especially in economic, in commercial and in strategic (game-theoretic) contexts. This relatively recent and now rapidly-developing form of computer simulation seeks to explain and predict complex social phenomena "from the ground up", through interactions of comparatively simple agents. The course reviews experimental and theoretical results, and exposes the students to modern development environments for this form of simulation. Students have the opportunity to design and implement agent-based simulations. Programming, however, is not required. This course aims to integrate various topics in agent-based simulation, while developing an appreciation of the problems that are particularly characteristic of this form of simulation so that students will understand its promise and potential.

353. (OIDD653) MATH MDLNG APPL IN FNCE. (C) Tsoukalas. Prerequisite(s): OPIM321 (or a similar optimization class).

Quantitative methods have become fundamental tools in the analysis and planning of financial operations. There are many reasons for this development: the emergence of a whole range of new complex financial instruments, innovations in securitization, the increased globalization of the financial markets, the proliferation of information technology and the rise of high-frequency traders, etc. In this course, models for hedging, asset allocation, and multi-period portfolio planning are developed, implemented, and tested. In addition, pricing models for options, bonds, mortgage-backed securities, and other derivatives are studied. The models typically require the tools of statistics, optimization, and/or simulation, and they are implemented in spreadsheets or a high-level modeling environment, MATLAB. This course is quantitative and will require extensive computer use. The course is intended for students who have strong interest in finance. The objective is to provide students the necessary practical tools they will require should they choose to join the financial services industry, particularly in roles such as: derivatives, quantitative trading, portfolio management, structuring, financial engineering, risk management, etc. Prospective students should be comfortable with quantitative methods

such as basic statistics and the methodologies (mathematical programming and simulation) taught in OPIM612 Business Analytics and OPIM321

Management Science (or equivalent). Students should seek permission from the instructor if the background requirements are not met.

397. (OIDD697) Retail Supply Chain Management. See description under OIDD 697.

398. (OIDD698) Retail Supply Chains.

The course will examine how retailers understand their customers' preferences and respond with appropriate products through effective supply chain management. The course class sections will deal with the following major items: (1) linking finance and operations in retailing, (2) what assortment of products should a retailer carry in each store, (3) optimizing the inventory carried of each SKU in each store, (4) markdown pricing, (5) store execution and (6) supply chain design. In addition, we will consider a broad range of issues facing two retailers, Mothers Work, and Best Buy, when we are visited by current and past senior executives from these firms.

The course is highly recommended for students interested in careers in: (1) Retailing and retail supply chains, (2) Businesses like banking, consulting and information technology that provide services to retail firms, (3) Manufacturing companies that sell their products through retail firms. Even if you don't expect to work for a retailer, this course can be useful to you in two ways. First, because retailers are such dominant players in many supply chains today, it is important that the processes they follow be understood by manufacturers and distributors, or by the consultants and bankers that service retailers and their suppliers. Second, the problems retailers face (e.g., making data accessible, interpreting large amounts of data, reducing lead-times, eliciting the best efforts from employees, and so forth), are shared by firms in many other industries. It's easier to understand these issues through case studies in retailing because we all experience the industry as consumers and can readily relate to chronic problems such as stock outs and markdowns.

The course will be highly interactive, using case discussions in more than half of the classes and including senior retail executives in a number of the class sessions.

399. Supervised Study. (C) 1 c.u. By appointment.

Decision science majors read and report on a bibliography of works in their field of specialization provided by a faculty member.

410. (OIDD672) Decision Support Systems. (C) Staff. Crosslisted with OPIM 672. See description under OPIM 672.

412. Intro to Computer Programming. (C)

415. (IPD 515, MEAM415) Product Design.

This course provides tools and methods for creating new products. The course is intended for students with a strong career interest in new product development, entrepreneurship, and/or technology development. The course follows an overall product design methodology, including the identification of customer needs, generation of product concepts, prototyping, and design-for-manufacturing. Weekly student assignments are focused on the design of a new product and culminate in the creation of a prototype. The course is open to juniors and seniors in SEAS or Wharton.

416. (IPD 517) Design and Development of Web-Based Products and Services.

In this course, students will study innovation and new product development in the context of Web-based products and services. This course lies at the intersection of product design and information technology; it is intended for students with general interests in the design of new products and/or information technology management. The course builds from a general product design methodology. For example, students begin with opportunity identification and analysis of user needs. However, the course also extends principles and practices used in innovation and new product development to information technologies in general and the Web in particular. For example, design-for-manufacturing is addressed with open-source software and Web services. Robust Engineering and Design of Experiments is applied to paper prototyping and server log analysis. The course is an interdisciplinary, integrative project-based course. Through weekly assignments, students apply the tools and techniques to the design of a new product, culminating in the initial roll-out of a working service. The course is open to juniors and seniors in SEAS or Wharton

469. Information Strategy and Economics. (C)

The course is devoted to the study of the strategic use of information and the related role of information technology. The topics of the course vary year to year, but generally include current issues in selling

digital products, intermediation, and disintermediation, designing and competing in electronic markets, outsourcing, and technology project management. Heavy emphasis is placed on utilizing information economics to analyze new and existing businesses in information-intensive industries. Technology skills are not required, although a background in information technology management (equivalent to OPIM210), strategic management or managerial economics is helpful.

611. Quality and Productivity. (A)

Matching supply with demand is an enormous challenge for firms: excess supply is too costly, inadequate supply irritates customers. In the course, we will explore how firms can better organize their operations so that they more effectively align their supply with the demand for their products and services. Throughout the course, we illustrate mathematical analysis applied to real operational challenges--we seek rigor and relevance. Our aim is to provide both tactical knowledge and high-level insights needed by general managers and management consultants. We will demonstrate that companies can use (and have used) the principles from this course to significantly enhance their competitiveness.

612. Business Analytics. (B)

"Managing the Productive Core: Business Analytics" is a course on business analytics tools and their application to management problems. Its main topics are optimization, decision making under uncertainty, and simulation. The emphasis is on business analytics tools that are widely used in diverse industries and functional areas, including operations, finance, accounting, and marketing.

613. Managing the Productive Core of the Firm: Information and Business Transformation. (B)

Information technology has transformed many industries, including media, financial services, and retailing, among others. These technologies have changed not only how we produce services (e.g., outsourcing and offshoring, and their newest extension, cloud computing) but what services we offer (virtual experiences, online advertising, long tail products and services, and social networking). The purpose of this course is to improve understanding of how information technologies enable transformation of business models within existing organizations as well as the development of completely new business models and new organizational forms. The

course will serve as an introductory course on information technologies and will serve as a foundation on which students can explore more advanced technology concepts.

614. Innovation. (A)

The course is first and foremost an intensive, integrative, project course in which student teams create one or more real businesses. Some businesses spun out of the course and now managed by alumni include Terrapass Inc. and Smatchy Inc. The project experience is an exciting context in which to learn key tools and fundamentals useful in innovation, problem solving, and design. Examples of these tools and fundamentals are: problem definition, identification of opportunities, generating alternatives, selecting among alternatives, principles of data graphics, and managing innovation pipelines. The course requires a commitment of at least 10 hours of work outside of class and comfort working on unstructured, interdisciplinary problems. Students with a strong interest in innovation and entrepreneurship are particularly encouraged to enroll. Please read carefully the syllabus posted on-line before registering for this course.

615. Operations Strategy. (B)

Operations strategy is about organizing people and resources to gain a competitive advantage in the delivery of products (both goods and services) to customers. This course approaches this challenge primarily from two perspectives: 1) how should a firm design their products so that they can be profitably offered; 2) how can a firm best organize and acquire resources to deliver its portfolio of products to customers. To be able to make intelligent decisions regarding these high-level choices, this course also provides a foundation of analytical methods. These methods give students a conceptual framework for understanding the linkage between how a firm manages its supply and how well that supply matches the firm's resulting demand. Specific course topics include designing service systems, managing inventory and product variety, capacity planning, approaches to sourcing and supplier management, constructing global supply chains, managing sustainability initiatives, and revenue management. This course emphasizes both quantitative tools and qualitative frameworks. Neither is more important than the other.

621. Decision Models and Uncertainty. (A) Lecture and discussion, with case studies and problem assignments.

The applicability and use of management science models have increased dramatically in recent years due to the extraordinary improvements in computer, information, and communication technologies. Personal computers and friendly interfaces have become effective "delivery vehicles" for powerful decision models that were once the exclusive province of experts. This core course in management science has a twofold purpose. First, it seeks to introduce simple models and ideas that provide powerful (and oftentimes surprising) qualitative insights about a large spectrum of managerial problems. Its main topics include linear and integer programming, decision making under uncertainty, and simulation. Second, it aims to give a feeling for the kinds of problems that can be tackled quantitatively, the methods and software available for doing so and the difficulties involved in gathering the relevant data. The emphasis is on models that are widely used in diverse industries and functions areas, including finance, operations, accounting, and marketing.

632. (LAW 517) Operations Management: Supply Chain Management. (B) Lectures, cases, class discussions.

Matching supply with demand is a primary challenge for a firm: excess supply is too costly, inadequate supply irritates customers. Matching supply to demand is easiest when a firm has a flexible supply process, but flexibility is generally expensive. In this course we will 1) learn how to assess the appropriate level of supply flexibility for a given industry and 2) explore strategies for economically increasing a firm's supply flexibility. While tactical models and decisions are part of this course, the emphasis is on the qualitative insights needed by general managers or management consultants. We will demonstrate that companies can use (and have used) the principles from this course to significantly enhance their competitiveness.

Inactive

640. (LGST640) Digital Game Design Techniques for Business: Rules, Incentives, Applications. (C) Werbach, Hunter. Prerequisite(s): none.

Why can't work be fun? Leading firms are engaging in the practice of gamification, using the techniques of digital game designers to serve objectives as varied as marketing, human resources management,

productivity enhancement, training, innovation, and customer engagement. This course will examine the mechanism of gamification and provide an understanding of their effective use in the modern firm. Cross-listed with LGST 640.

The course will draw upon interdisciplinary source material as well as real-world case studies and production game environments to identify effective analytical models, strategies, techniques, and metrics for the application of games to business. It will also identify a number of significant pitfalls to the successful implementation of gamification techniques, notably legal and ethical issues, the difficulty of making things fun, and the problems with implementing radical change in established firms. The course will include both in-person meetings and web-based online sessions.

642. Analytics for Services. Prerequisite(s): Students who have already taken OIDD 611, OIDD 612, and STAT 613 should be well-equipped for the class. Other students should have a solid understanding of elementary probability, statistics and linear programming. For questions regarding the specifics of your background, please contact the instructor. Class participation, case write-ups, online quizzes, self-study exercises and a final exam.

This course covers a range of analytical methods that are useful tools for capacity management in services, and it will provide you with insights into the economics of a range of services businesses including (i) High-level planning models that account for multiple dimensions of service capacity, (ii) Low-level models of system congestion that capture the relationship between capacity choices, quality of service and, in some cases, system revenue, (iii) Statistical estimation and forecasting models to characterize key measures of future supply and demand.

652. Advanced Management Science: Models and Applications. (M) Prerequisite(s): OPIM 621.

This course will cover applications of decision models to managerial problems in a variety of business functions. The course will use management science techniques such as mathematical programming (LP/IP/NLP), Monte-Carlo simulation, decision trees, probability theory and statistical analysis as the vehicle for applying diverse management theories to real-world problems. Potential in-class applications include product-line selection, risk management, corporate real options, and supply-chain restructuring. The course

will emphasize the practical application of these techniques; problems will be solved using popular packages such as Excel, and Crystal Ball.

653. (OIDD353) Mathematical Modeling and its Application in Finance. (C) Tsoukalas. Prerequisite(s): Either OPIM321 or OPIM612 (or a similar optimization class).

Quantitative methods have become fundamental tools in the analysis and planning of financial operations. There are many reasons for this development: the emergence of a whole range of new complex financial instruments, innovations in securitization of the financial markets, the proliferation of information technology and the rise of high-frequency traders, etc. In this course, models for hedging, asset allocation, and multi-period portfolio planning are developed, implemented, and tested. In addition, pricing models for options, bonds, mortgage-backed securities, and other derivatives are studied. The models typically require the tools of statistics, optimization, and/or simulation, and they are implemented in spreadsheets or a high-level modeling environment, MATLAB. This course is quantitative and will require extensive computer use. The course is intended for students who have strong interest in finance. The objective is to provide students the necessary practical tools they will require should they choose to join the financial services industry, particularly in roles such as: derivatives, quantitative trading, portfolio management, structuring, financial engineering, risk management, etc. Prospective students should be comfortable with quantitative methods

quantitative methods, such as basic statistics and the methodologies (mathematical programming and simulation) taught in OPIM612 Business Analytics or OPIM321 Management Science (or equivalent). Students should seek permission from the instructor if the background requirements are not met.

654. Product Design and Development. (B) Staff. Lectures, case and problem analyses, group presentations, the development of a new product to the prototype stage.

The course provides the student with a number of tools and concepts necessary for creating and managing product development processes. The course consists of two interwoven parts. First, it presents the basic steps that are necessary for moving from a "cool idea" to a product sufficiently mature to launch an

entrepreneurial start-up. This includes cases, lectures, and exercises on topics like identifying customer needs, developing a product concept as well as effective prototyping strategies. The capstone of this first part is a real project in which student teams conceptualize and develop a new product or service up to the completion of a fully functional prototype.

Second, the course discusses a number of challenges related to product development as encountered by management consultants, members of cross-functional development teams as well as general managers. We will analyze several cases related to, among others, resource allocation in R&D organizations, organizational forms of product development teams, as well as managing development projects across large geographic distances.

655. (MKTG655) Operations, Marketing, and Design Integration.

(B) Staff. Prerequisite(s): MKTG 621, MKTG 622, OPIM 631, OPIM 632. Crosslisted with MKTG 655.

This course covers topics that span marketing and operations management. Students will examine issues and decisions that require significant coordination between managers in marketing and operations. Topics include channel management, supply chain design, product variety management and service operations pricing and control.

656. (ESE 522) Operations Strategy.

(C) Staff. Prerequisite(s): OPIM 621, OPIM 631, and OPIM 632 or equivalent. Crosslisted with ESE 522.

This course examines how organizations can develop and leverage excellence in process management. The first module focuses on operations strategy. In these classes, we examine what constitutes an operation strategy and how organizations can create value by managing complexity, uncertainty, and product development. In the second half of the course, we discuss recent developments in both manufacturing and service industries. Specifically, we examine initiatives in quality, lean manufacturing and enterprise-wide planning systems. The course is recommended for those interested in consulting or operations careers, as well as students with an engineering background who wish to develop a better understanding of managing production processes.

658. Service Operations

Management. (C) Staff. Prerequisite(s): Courses in operations management, linear programming, probability and statistics.

The service sector represents the largest segment of most industrial economies. In the U.S., for example, it accounts for approximately 70% of GDP and 70% of employment. In addition to this "pure" service sector, the operations and competitive positions of many manufacturing firms are becoming increasingly service-oriented. While operational excellence is critical for success in most industries today, in a wide range of service industries this is particularly true. For example, recent, significant deregulation in banking, health care, and communications has led to intensified competition and pressure on operations. At the same time, the rapid evolution of information technology has enabled firms to operate in a fashion - and offer a level of service - that has not been previously possible. Elements common to most services make the management of their operations complex, however. In particular, services are intangible, not storable or transportable, and often highly variable. Frequently their delivery involves distributed operations with a significant amount of customer contact. All of these factors make service operations end up looking quite a bit different than manufacturing operations, and the task of achieving excellence in them requires specialized analysis frameworks and tools.

This course covers a mix of qualitative and quantitative models that provide the necessary tools. The class will focus on simple models that should help you to better understand both the difficulty of managing and the underlying economics of the service operations being considered. You will have the opportunity to apply these course tools in a group service assessment field project.

659. Advanced Topics in Quantitative Methods and Operations Management. (C) Staff.

Prerequisite(s): OPIM 631 and OPIM 632.

The specific content of this course varies from semester to semester, depending on student and faculty interest. Recent topics have included global operations, product design and development, quality management, and logistics strategy. See department for course description.

Inactive

662. (OIDD314) Enabling Technologies.

Lectures, discussions, assignments and class participation.

This course is about understanding emerging technology enablers with a goal of stimulating thinking on new applications for commerce. No prerequisite or technical background is assumed. The class is self-contained (mainly lecture-based) and will culminate in a class-driven identification of novel businesses that exploit these enablers.

No prerequisite or technical background is assumed. Students with little prior technical background can use the course to become more technologically informed. Those with moderate to advanced technical background may find the course a useful survey of emerging technologies. The course is recommended for students interested in careers in consulting, investment banking and venture capital in the tech sector.

664. Database and Information Management Systems. (C) Staff.

Data and information are critical to the modern organization. Whether used in knowledge management, business intelligence, enterprise resource planning (ERP), product design, marketing, personalization and other aspects of managing customer relationships (CRM), the underlying principles of data management are the same. This course aims to provide a practical introduction to the fundamental principles. Examples and exercises will cover the relational database tools at the core of ERP, CRM, and on-line exchanges and portals. However, the course will also use the same basic foundations to consider emerging technologies and standards such as XML, ebXML, UDDI, etc.

Inactive

665. Operations Management in Health Care.

Faculty. Prerequisite(s): OPIM 631.

In an era where health care systems around the world face rapidly rising costs and quality issues, organizations large and small are looking into the operational side of health care for solutions. Likewise, the abundance of unfulfilled needs in the health care marketplace has led to an array of technology ventures with innovative new products and services. In this course, we apply the tools of operations management to analyze the health care value chain. The course consists of four modules: (1) the management of productivity, quality, and variability by care providers, (2) capacity and investment decisions under uncertainty confronting pharmaceuticals, (3) the design of health insurance by health plans and the

determination of health benefits by employers, and (4) business ideas and operations models from the intersection of academic research and technology ventures. Students will learn from case discussions, hands-on decision tools, and several distinguished speakers and alumni from Stanford Hospital & Clinics, Merck, U.S. Naval Academy, and Deloitte Consulting. No prior exposure to the health care industry is assumed. The course prepares students for several career paths including consulting, operations management, and health care administration and is open to both first- and second-year MBA students.

669. Advanced Topics in Information Strategy. (B) Staff.

The capstone course for the MBA major "Information Strategy, Systems, & Economics," OPIM 669 covers essential topics in information strategy - such as pricing of information goods; competing in electronic markets; market transparency and search issues; information-intensive strategies; IT outsourcing; and software project management - that have high impact on 21st-century business but are not typically covered in other Wharton courses.
Inactive

670. Special topics in Information Systems: Simulation and Dynamic Competitive Strategy. (M)

This course introduces tools and techniques for modeling dynamic competitive strategies - strategies that evolve over time as you and competitors take actions in response to each other and to changes in the competitive environment. This goes beyond case discussions and approximates the rigor of theoretical or game theoretical analyses, even for problems for which no traditional analytical solutions exist. Students of the course will learn to model business environments and design simulators with the goal of gaining insight and designing policies for strategy implementation. Students will develop understanding of the timing and sequencing of the actions required, as well as understanding how to modify strategies on the fly based on changing conditions or objectives. Students are introduced to state of the art software for general purpose business modeling and simulation.
Inactive

672. (OIDD410) Decision Support Systems. (C) Staff. Lectures and discussions, written assignments, projects using software packages to build models.

The past few years have seen an explosion in the amount of data collected by

businesses and have witnessed enabling technologies such as database systems, client-server computing and artificial intelligence reach industrial strength. These trends have spawned a new breed of systems that can support the extraction of useful information from large quantities of data. Understanding the power and limitations of these emerging technologies can provide managers and information systems professionals new approaches to support the task of solving hard business problems. This course will provide an overview of these techniques (such as genetic algorithms, neural networks, and decision trees) and discuss applications such as fraud detection, customer segmentation, trading, marketing strategies and customer support via cases and real datasets.

673. Global Supply Chain Mgmt.

Several forces, ranging from technology that has dramatically reduced the cost of communication, to political developments such as the opening up of China, Vietnam, and Eastern Europe, have created an avalanche of outsourcing and offshoring and lead to supply chains that stretch halfway around the world. This course will study the many questions that arise in the management of such global supply chains, including: Which design and production activities to do in-house and which to outsource? Where to locate various activities around the world? How to forecast the many factors that influence these decisions, including inflation in cost factors such as labor and freight, and the likelihood of future government regulation or political instability? How to keep the supply chain flexible so as to adapt to change? How to manage a geographically disbursed supply chain, including what relationships to have with vendors to ensure low cost, high quality, flexibility, safety, humane labor practices and respect for sustainability of the environment? The course is highly interactive, using case discussions in most classes and senior supply chain executives in many sessions. Grades are based one-third each on class participation, individual write-ups of the discussion questions for 3 of the class sessions, and a course paper.

676. Electronic Markets: Structures, Market Mechanisms and IT Enabled Strategies. Prerequisite(s): MGEC 621 is recommended.

This course deals with Electronic Markets and Market structures and the strategic uses of information within the firm. The course consists of four related modules on the design and functioning of Business to

Business markets, use of technology to source services from global providers - i.e., outsourcing of business processes (as opposed to IT), the use of strategic technological platforms such as CRM and Web Services and the technology-enabled precision pricing techniques. Further, students are exposed to strategy formulation and execution in an online market where they compete both against each other and against (electronic) agents. This course is recommended for students interested in a career in consulting, strategic management and to students interested in information technology related professions. The course will be delivered through a mix of lectures, case discussions and hands-on trading in virtual markets using different market mechanisms. The course Web cafe will be used for discussions and responses from instructor and TA. We do not assume or require any specific technical knowledge.

Workings of electronic markets and market mechanisms and how IT can enable the formulation of new strategies and empower firms to define new markets in ways that were not possible until recently. This is an advanced elective that covers several essential topics in information strategy - IT and market structure, impact of IT on knowledge-intensive products and services and creating hybrid markets that span multiple channels. Students will compete in simulated electronic markets, using different market mechanisms and formulate information-based strategies. Students will also study how IT has enabled the globalization of services through the outsourcing of processes (BPO) and how quasi market structures which combine elements of organization and markets are emerging in knowledge-intensive service industries.

690. (MGMT690) Managerial Decision Making. (C) Staff. Crosslisted with MGMT 690.

The course is built around lectures reviewing multiple empirical studies, class discussion, and a few cases. Depending on the instructor, grading is determined by some combination of short written assignments, tests, class participation and a final project (see each instructor's syllabus for details).

691. (LGST806, MGMT691, OIDD291) Negotiations. (C) Staff. Prerequisite(s): STAT 621, OPIM 621. Crosslisted with LGST 806, MGMT 691. Lectures, cases, presentations, and written assignments.

Negotiation is the art and science of creating good agreements. In this course we will work on both, studying economics

and psychology for the science, and practicing actual negotiations for the art. Throughout we think of negotiation in general terms, relevant not only to salary negotiations and home buying, but performance evaluations, speeches, group collaborations and interpersonal relationships. We practice these kinds of negotiations in 2-, 3-, 4-, and 6-person exercises. Potential reasons to skip this particular negotiation course: 1) We have a strong attendance policy, 2) We have strong no-computers/phones policies, 3) the course is very discussion oriented, 4) We survey your work colleagues about your influence tactics, and 5) you have a short assignment due almost every class. Beginning with the second week of class, if you miss one class you lose a letter grade. If you miss two classes you fail. We have this policy because it is an experiential class, and because your attendance directly affects classmates you are paired with. For some weeks you can attend another section if necessary. Cross-listed with MGMT691 and LGST806.

693. (LGST693) INFLUENCE. (C)

695. Semester in San Francisco Regional Seminar. (C)

As part of the Wharton Semester in San Francisco (SSF) program, this course is designed to (i) provide integrative material that emphasizes links between finance, marketing, product design, negotiations, and other themes in the SSF academic curriculum; (ii) link classroom theories and principles to actual practice by reflecting on the academic literature and (iii) highlight the unique characteristics of, and the programs proximity to, the Bay Area economy. All students participating in the SSF are required to register for this Regional Seminar.

697. (OIDD397) Retail Supply Chain Management. (C) Lectures, case discussion, guest speakers. Class participation, papers, and a team report.

This course is highly recommended for students with an interest in pursuing careers in: (1) retailing and retail supply chains; (2) businesses like banking, consulting, information technology, that provides services to retail firms; (3) manufacturing companies (e.g. P&G) that sell their products through retail firms. Retailing is a huge industry that has consistently been an incubator for new business concepts. This course will examine how retailers understand their customers' preferences and respond with appropriate products through effective supply chain management. Supply chain management is vitally

important for retailers and has been noted as the source of success for many retailers such as Wal-mart and Home Depot, and as an inhibitor of success for e-tailers as they struggle with delivery reliability. See M. L. Fisher, A. Raman and A. McClelland, "Rocket Science Retailing is Coming - Are You Ready?," Harvard Business Review, July/August 2000 for related research.

698. (OIDD398) Value Networks. (M) Staff.

This is a project-based course run in a seminar format to explore current trends and opportunities for integration and coordination in IT-enabled value-chain networks. The curriculum is structured around a live case; students will work in teams to synthesize data from the live case and evaluate possible operational strategies and IT enablers in the context of a real, on-going business restructuring decision. Students will review a set of operations strategies affecting production, fulfillment, procurement product design, and support that may prove relevant e.g. Postponement, Mass Customization, Customer Service Differentiation, Buyer/Supplier Coordination. We also consider functionality that underlies relevant information technologies like Enterprise Resource Planning (ERP) or Customer Relationship Management (CRM), e.g. data integration, information quality, and security. Finally, we invite different vendors into the class to provide students with the opportunity to compare and contrast state-of-the-art IT and Operations Management solutions.

Inactive

761. (BEPP261, BEPP761, BEPP961, OIDD261) Risk Analysis and Environmental Management. (C)

Staff. Cross listed with OPIM 261, BPUB 261, 761, 961, and ESE 567.

This course is designed to introduce students to the role of risk assessment, risk perception and risk management in dealing with uncertain health, safety and environmental risks including the threat of terrorism. It explores the role of decision analysis as well as the use of scenarios for dealing with these problems. The course will evaluate the role of policy tools such as risk communication, economic incentives, insurance, regulation and private-public partnerships in developing strategies for managing these risks. A project will enable students to apply the concepts discussed in the course to a concrete problem. Cross-listed with BPUB 761.

762. Environmental Sustainability and Value Creation. (C) Staff. MBA mini elective. This course is one of the set of mini-elective courses satisfying the core requirement. Lecture and discussion including guest speakers. Class discussion, presentations, and final project.

This course approaches environmental issues, and sustainable development more largely, from the standpoint of business. It emphasizes the trends in corporate practices and uses case studies to examine the interactions between the environment and the firm. Value creation focuses on new innovative services and financial products in this fast growing sphere. This course has three objectives: to increase your knowledge as future top decision makers on key environmental questions; to recognize environmental concerns as competitive opportunities; to teach students to think strategically and act entrepreneurially on environmental issues. You will leave the class with a tool-kit for action.

763. (BEPP763) ENERGY MARKETS & POLICY.

898. Advanced Topics. (M)

900. (PSYC608) Foundations of Decision Processes. (C) Staff.

Prerequisite(s): STAT 510 or 550.

The course is an introduction to research on normative, descriptive and prescriptive models of judgement and choice under uncertainty. We will be studying the underlying theory of decision processes as well as applications in individual group and organizational choice. Guest speakers will relate the concepts of decision processes and behavioral economics to applied problems in their area of expertise. As part of the course there will be a theoretical or empirical term paper on the application of decision processes to each student's particular area of interest.

904. (BEPP904) Experimental Economics. (M) Staff. Prerequisite(s): OPIM900 or permission of the instructor.

Many theories in economics can be tested usefully in experiments in which researchers control parameters that are uncontrolled in natural settings. This course presents the theory of the experimental method and validity along with several examples of experimental testing: simple competitive equilibrium, intertemporal competitive equilibrium, asset markets, futures markets, bargaining models, tournaments, reputation-building in repeated games, etc.

SM 906. Proseminar in Operations and Information Management. (M) Staff.

910. (ESE 504) Concepts of Math Programming. (A) Staff. Crosslisted w/ ESE 504.

Introduction to mathematical programming for PhD students who would like to be intelligent and sophisticated consumers of mathematical programming theory but do not plan to specialize in this area. Integer and nonlinear programming are covered, including the fundamentals of each area together with a sense of the state-of-the-art and expected directions of future progress.

913. Advanced Linear Programming. (M) Prerequisite(s): OPIM 910/ESE504 or equivalent.

In-depth study of the theory and algorithms related to the solution of linear programming problems. Optimality conditions, duality and sensitivity analysis. Primal and dual simplex methods. Interior point methods. Large-scale optimization. Dantzig-Wolfe decomposition.

914. Advanced Non-Linear Programming. (M) Staff. Prerequisite(s): OPIM910 or equivalent.

Convex sets and functions. Tangent cones. Polar cones. Optimality conditions and duality theory. Methods for unconstrained and constrained optimization. Interior and exterior penalty methods. Lagrangean and augmented Lagrangean methods.

915. Advanced Graph Theory. (M) Staff. Prerequisite(s): OPIM910 / ESE504 or equivalent.

Deals mainly with algorithmic and computational aspects of graph theory. Topics and problems include reachability and connectivity, setcovering, graph coloring, location of centers, location of medians, trees, shortest path, circuits, traveling salesman problem, network flows, matching, transportation, and assignment problems.

916. Advanced Integer Programming. (M) Staff. Prerequisite(s): OPIM 910 or equivalent.

In-depth review of solution methods: Lagrangean relaxation and column generation, Benders partitioning, cross-decomposition, surrogate relaxation, cutting planes and valid inequalities, logical processing, probing, branch-and-bound, branch-and-price. Study of special problems and applications: matching, location, generalized assignment, traveling salesman, forest planning, production scheduling.

920. Empirical Research in Operations Management.

Empirical research in Operations Management has been repeatedly called for over the last 10-15 years, including calls made from the academic thought leaders in the field as well as by many of the editors of the top academic journals. Remarkably though, most researchers in the field would be pressed to name even three empirical papers published in such journals like Management Science or Operations Research. But, has there really been so little published related to empirical Operations Management (you might be surprised to learn that all five bullets listed above has been addressed by Management Science papers)? What types of problems in operations are interesting and worthwhile studying from an empirical viewpoint? How can one get started with an empirical research project in Operations Management? These are the questions that are at the heart of this course.

Specifically, the objective of this course is to (a) expose doctoral students to the existing empirical literature and (b) to provide them with the training required to engage in an empirical study themselves.

930. Stochastic Models. (A) Staff. Prerequisite(s): STAT510 or 550 or equivalent.

This course introduces mathematical models describing and analyzing the behavior of processes that exhibit random components. The theory of stochastic processes will be developed based on elementary probability theory and calculus. Topics include random walks, Poisson processes, Markov chains in discrete and continuous time, renewal theory, and martingales. Applications from the areas of inventory, production, finance, queueing and communication systems will be presented throughout the course.

931. (STAT901) Stochastic Processes II. (B) Staff. Prerequisite(s): OPIM930. Crosslisted with STAT 901.

Extension of the material presented in OIDD930 to include renewal theory, martingales, and Brownian motion.

932. Queuing Theory. (J) Staff. Prerequisite(s): OPIM930 and OPIM931.

This course presents the mathematical foundations for the analysis of queueing systems. We will study general results like Little's law and the PASTA property. We will analyze standard queueing systems (Markovian systems and variations thereof) and simple queueing networks, investigate infinite server models and many server approximations, study GI/G/1 queues

through random walk approximations, and read papers on applied queueing models.

934. Dynamic Programming and Stochastic Models. (B) Staff. Prerequisite(s): OPIM930.

The course goal is to provide a brief but fairly rigorous introduction to the formulation and solution of dynamic programs. Its focus is primarily methodological. We will cover discrete state space problems, over finite or infinite time horizon, with and without discounting. Structured policies and their theoretical foundation will be of particular interest. Computational methods and approximation methods will be addressed. Applications are presented throughout the course, such as inventory policies, production control, financial decisions, and scheduling.

937. Methods Stumblers: Pragmatic Solutions to Everyday Challenges in Behavioral Research. (C)

This PhD-level course is for students who have already completed at least a year of basic stats/methods training. It assumes students already received a solid theoretical foundation and seeks to pragmatically bridge the gap between standard textbook coverage of methodological and statistical issues and the complexities of everyday behavioral science research. This course focuses on issues that (i) behavioral researchers are likely to encounter as they conduct research, but (ii) may struggle to figure out independently by consulting a textbook or published article.

940. Operations Management. (C) Staff. Crosslisted with ESE 620.

Concepts, models, and theories relevant to the management of the processes required to provide goods or services to consumers in both the public and private sectors. Includes production, inventory and distribution functions, scheduling of service or manufacturing activities, facility capacity planning and design, location analysis, product design and choice of technology. The methodological basis for the course includes management science, economic theory, organization theory, and management information system theory.

941. Distribution Systems Seminar. (B) Staff. Prerequisite(s): OPIM940.

Seminar on distribution systems models and theory. Reviews current research in the development and solution of models of distribution systems. Emphasizes multi-echelon inventory control, logistics management, network design, and competitive models.

943. Retail Operations.

950. Perspectives on Information Systems. (C) Staff.

Provides doctoral students in Operations and Information Management and other related fields with a perspective on modern information system methodologies, technologies, and practices. State-of-the-art research on frameworks for analysis, design, and implementation of various types of information systems is presented. Students successfully completing the course should have the skills necessary to specify and implement an information system to support a decision process.

SM 951. Seminar on Logic Modeling. (M) Staff. Prerequisite(s): Permission of the instructor and some prior knowledge of logic or Prolog.

Seminar on the elements of formal logic necessary to read and contribute to the Logic modeling literature, as well as the implementation principles for logic models. The primary topics include elements of sentence and predicate logic, elements of modal logics, elements of semantics, mechanical theorem proving, logic and database, nonmonotonic reasoning, planning and the frame problem, logic programming, and metainterpreters.

SM 952. Computational Game Theory. (M) Staff. Prerequisite(s):

Permission of instructor and knowledge of logic and Prolog or Lisp.

Seminar on principles of knowledge-based systems including expert systems. Topics include basics of expert systems, knowledge representation, meta-level reasoning, causal reasoning, truth maintenance systems, model management, planning systems and other applications.

955. Research Seminar in Information Systems.

This course provides an overview of some of the key Information Systems literature from the perspective of Information Strategy and Economics (ISE) and Information Decision Technologies (IDT). This course is intended to provide an introduction for first year OIDD doctoral students, as well as other Wharton doctoral students, to important core research topics and methods in ISE and IDT in order for students to do research in the field of Information Systems. While it is intended as a "first course" for OPIM doctoral students in ISE and IDT, it may also be useful for students who are engaged in research or plan to perform information technology related research in other disciplines.

960. Research Seminar in Information Technology - Economic Perspectives. (A)

Explores economic issues related to information technology, with emphasis on research in organizational or strategic settings. The course will follow a seminar format, with dynamically assigned readings and strong student contribution during class sessions (both as participant and, for one class, as moderator.)

961. Research Seminar in Information: Strategy, Systems and Economics.

This is the advanced doctoral-level research research in information strategy and economics that builds on the foundations developed in OPIM960. Much of the content will be focused on current research areas in information strategy such as the information and organizational economics, information technology and firm performance, search cost and pricing, information and incentives, coordination costs and the boundary of the firm, and the economics of information goods (including pricing and intellectual property protection). In addition, promising empirical approaches such as the use of intelligent agents for data collection or clickstream data analysis will be discussed.

992. Conflict Mgmt Seminar. (B)

ORGANIZATIONAL DYNAMICS (AS) {DYNM}

SM 500. Foundations of Research and Scholarship. Barstow, Greco, and Shapiro. Prerequisite(s): Non-DYNM students must complete a course permit request form: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: F.

A main objective of this foundation course is to improve the academic papers and presentations in all Organizational Dynamics work, including the capstone. Because the discipline of writing for academic purposes is based on skills that are not common to business writing and because the writing process is central to learning in this program, Organizational Dynamics offers this course designed to assist participants in developing efficient, reliable, and fruitful academic writing and presentation techniques.

SM 501. Perspectives on Organizational Dynamics. (C) Greco. Prerequisite(s): Non-DYNM students must complete a course permit request: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: F; DYNM Concentrations: LMC, GL, OC, SD.

"Perspectives" is both a fundamental and integrating course intended for MSOD students at any point in the program who wish to understand and deploy a multiplicity of dynamics operative in organizations and in the minds that create and inhabit them. It is particularly useful for those in their first year and for non-MSOD students. One key focus is on understanding the implicit mental and emotional frameworks or metaphors that "inform" organizing so that we can virtually see more robust and complex approaches to effectiveness and to leadership within them. Several faculty members highlight their specialties. One special theme examines new management models and thinking frameworks designed to prevail in a 21st century context. Lectures, discussion, and experiential learning are used to build an informed grounding in the history, philosophy, theory and practice of Organizational Dynamics. The course requirements are active class participation, potential application projects/weekly journal, a midterm paper and a final paper.

SM 542. Theories & Models That Inform Coaching. (C) Orenstein. Prerequisite(s): Permits for Non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Course Category: F; DYNM Course Concentrations: LMC, OC.

This course will examine how theory guides the effective practice of coaching. Students will be introduced to a theory and model that encompasses a multi-disciplinary approach to coaching in an organizational setting. With this framework as a basis, students will select, research, and present a theoretical model of their own choosing and design a coaching application that demonstrates theory in action. Students will leave the course with an array of theoretical frameworks and practical techniques that will enhance their own coaching capabilities as managers and consultants. Undergraduates may enroll in 500-level courses only with permission of the instructor. This course will meet on the following weekends: May 21-22; June 11-12; June 18-19. The final class on 6/19 will be 8:45 to 12:30 pm.

SM 551. Devil's Advocate: Power of Divergent Thinking. (C) Greco. Prerequisite(s): Permits for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Course Category: A; DYNM Course Concentration: LMC.

Short-term or long-term? Us or them? Build or buy? Margin or volume? My way or the highway! Ad infinitum, apparent forced choices--or no choice--and limited perspectives can create costly tugs of war or constricted judgment without our minds (and hearts) and in organization dynamics, persuasive, and often hidden, divergence in thinking offers great opportunity for learning, creativity, and sound decision-making. This course offers several robust, practical techniques for bringing the value of diverse perspectives in politically productive ways to leadership thinking, communications, and organization dynamics. This course will meet between May 24th and June 21st.

SM 552. Strategic Crowdsourcing & Business Models. (C) Villarroel. For additional information, please see our website at: <http://www.organizationaldynamics@upenn.edu/od.cgi>.

This online course offers insight on how innovative firms are organizing strategically to gain advantage from engaging online with the value distributed

resources held by a global pool of individuals. Through cases derived from original research, including Amazon, Facebook, Netflix, oDesk, Kiva, Wikipedia, among others, this course unveils the business models that these organizations use to create new value by working with "crowds" online. Open, distributed, online approaches to work and innovation have been widely studied over the past decade in the context of the computer and software industry (e.g. Benkler 2002; Chesbrough 2003; von Hippel and von Krogh 2003). Many of those concepts have since then permeated other industries, eventually giving birth to a distributed organizational paradigm referred to as "crowdsourcing" (e.g. Howe 2008; Villarroel 2008). The crowdsourcing model has proven valuable for innovation, work, entrepreneurship, among other applications. For example, in 2011, a crowd innovation initiative involving 57,000 individuals solved a decade-old scientific problem in molecular biology in only 3 weeks. In 2012, the top 3 crowd labor platforms brought skilled work to 6 million people in over 200 countries. In 2013, US \$5 billion are expected to be invested in crowd-funded projects around the world.

The aims of this course are (1) to gain a solid understanding of the business models in crowdsourcing; (2) to benefit from first-hand experience with the "power of the crowd", (3) to critically analyze the potential and limitations of this new organizational paradigm.

553. Becoming a Courageous Follower. (C) Eldred. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

This course will examine both personal and professional behaviors that constitute effective followership. While the leadership literature is saturated with books on becoming better leaders, there is a dearth of awareness on finding and supporting those who follow those leaders effectively. Students will use surveys from the limited literature on effective followership to profile their own organization's dynamics on styles of followership, and stories of success and failure in confronting organization mistakes and leadership errors will be researched. The outcome of the class will be a personal profile on followership style and an organizational profile on its followership culture.

SM 555. The Idea of Nationalism. (C)

Steinberg. Prerequisite(s): Permits for non-DYNM students:

<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: A; DYNM Concentration: GL.

Nationalism has been the most important geo-political phenomenon of the past two hundred years. Its continuing power has been amply demonstrated by recent events in many parts of the world. The principle of national self-determination and closely related notions of individualism and human rights shape the global context in which businesses, governments, organizations, and individuals must operate in the 21st century. This seminar course will explore the ideology of nationalism through the lens of institutions and organizations, corporations, nonprofits, government, NGOs, unions, religious communities, etc.

Starting with concrete examples from students own experiences and the contemporary conflicts confronting governments, organizations, and businesses, we will examine the ideology of nationalism, its meaning and content, its philosophical foundations, its underlying assumptions about the nature of human identity, and its contemporary expressions in nationalist movements and ethno-political conflicts around the world. In the process, we will explore such questions as: What is a nation? Does every identifiable ethnic or national group have a valid claim to a nation-state of its own? How are claims to national self-determination justified? Why do nationalist movements seem so often to engender political extremism and violent ethno-political conflicts? Is national self-determination compatible with our commitments to individualism, rationality, and universal human rights? What are the best strategies to cope with the persistence of nationalism in the 21st century?

558. Social Media and the Organization. Havelly/Warren.

Prerequisite(s): Non-DYNM students must complete a course permit request:

<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: A; DYNM Concentration: LMC.

If you don't yet believe in the social media revolution, then watch this: <http://www.youtube.com/watch?v=ZQzsQkMFgHE> Facebook. Twitter. Pinterest. Tumblr. Path. Delicious. Digg. Youtube. LinkedIn. It's been less than a decade since many of these social media services have launched, yet they've transformed society in many significant ways. Social Media and the Organization

will deepen your understanding of and offer real time practical experience with social media. The course will examine the current trends and use of social media in marketing, product development, customer service, networking and other facets of organizational policy and practice. Students will have hands-on participation online with the class blog, <http://upennsocialbook.wordpress.com> sharing relevant case studies, analyzing social media campaigns and critiquing their own organization's culture and values surrounding social media including social media policy, staff challenges, and evaluation of challenges and opportunities in its use.

559. Research Methods to Develop Dynamic Expertise. Freeman.

For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

It's not enough to be competent, educated, smart and professional. Globalization, technology, and vastly improved communications have increasingly led to "Winner Take All" markets. Consider the local opera house: 100 years ago, Iowa alone had more than 1,500 of them. Thousands of sopranos earned adequate, if modest, livings from the live performances, but now, thanks to i-pods, the world's best soprano can be literally everywhere at once. And since it costs no more to transmit MP3s of Renee Fleming's Mozart arias than her understudy's, most opera fans listen to Fleming. Thus, Fleming earns several million dollars a year while most other sopranos, many of whom are almost as talented, struggle to get by. The same is increasingly true of other professions: Those who are recognized for being the best at what they do can sell their services anywhere and everywhere at top dollar, whereas those who lack such recognition find their services valued less and less--if they are valued at all. As graduate students at the University of Pennsylvania, you have an extraordinary opportunity to become the leading expert in a given domain in a few short years, maybe less.

SM 601. Gender Issues in Organizational Leadership. (C)

Vanderslice. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

This seminar will explore the intersection of gender and organizational behavior as it has evolved and in the current social and economic context in this country. We will examine the social, cultural and structural

dynamics within organizations that differentially affect women and men, as well as the gender-linked resources each brings to organizations. Topics that will be addressed include the debate over the current situation of women in the workforce; the social construction of gender; the relationship of gender and power in understanding gender dynamics in the workplace; the intersection of gender and class; gender issues in organizational leadership; policy and practice as reinforcers of gendered dynamics; the interaction of culture and organizational structure; and restructuring organizations to better meet the needs of women and men in today's culture. The course will 1) address the development of a theoretical framework for understanding gender issues in the workplace; 2) explore more specific ways in which policies and practices have different effects on employees and managers by virtue of gender and; 3) focus on alternative conceptualizations, structures, policies and practices that could make it possible for both men and women to be successful in the workplace and to avoid gender-based discrimination.

In this last section, we will specifically discuss various organizational change processes that address gender issues within organizations.

SM 602. Leader-Manager as Coach. (C)

Russo. Prerequisite(s): Course permits for Non-DYNM students:

<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: A; DYNM Concentrations: LMC, OC. Course Schedule: 9/24; 10/8 & 29; 11/12 & 19.

New work technologies, increased competition and employees' desire for more involvement in their work are changing the traditional role of the manager. Rather than directing, planning and controlling the work, managers and leaders are facilitating processes and coaching and developing their employees. Team based organizations are built on coaching as a core requirement of the team leader role. This course explores the theory and practices of individual coaching as leadership behavior. The focus is on helping managers develop their skills and improve their performances as coaches. We will examine the need to provide others with successful performance strategies, timely feedback on strengths and on development needs and growth opportunities in order to challenge others to reach their potential. We will explore workplace environments that foster the growth and achievement of those we lead.

SM 603. Leading Emergence: Creating Adaptive Space in Response to Complex Challenges.

(C) Arena. Prerequisite(s): Permit requests for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Categories: F, A; DYNM Concentration: LMC. In-person Meeting Schedule: 6/3-5 & 7/15-17.

SM 604. Managing Enterprise Risk.

(L) Combrinck-Graham. Prerequisite(s): Non-DYNM students must complete a course permit request form: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Categories: DE, A; DYNM Concentration: LMC.

Can operations undertake effective risk management in our globalized, inextricably networked economy? What risk management role do we play in our organizations? We will apply readings and engage in case studies to discuss whether our organizations do or should manage risks as strategically as opportunities. We'll also examine our involvement with risk management in our organizations. By the conclusion of the course, you should have a strong understanding of organizational risk and a framework for addressing risk in your organization. This course includes webinar calls on several weeks during the semester in addition to the weekly Wednesday evening classroom meetings.

SM 605. (GAFL605) Managing Project Risk, Uncertainty, and the Unexpected. (C) Hornbacher.

Prerequisite(s): Course permits for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: DE, A; DYNM Concentrations: LMC. Course Schedule: 9/10, 17; 10/1, 15, 29; 11/5, 19; 12/3, 17.

DYNM 605 is a uniquely blended content of thought leadership vetted by subject matter experts worldwide. This participant-centered seminar is an opportunity to increase both awareness and knowledge of risk and uncertainty by examining causes of unexpected events in predictive (classic) and adaptive (agile) project frameworks. Successful applications of non-deterministic approaches are explored as antidotes to constrained command and control project environments. Course content is valuable in roles, organizations, and sectors of all types. Prominent project/operational risk management methodologies are included in this seminar. Processes advanced by the Project Management Institute, U.K. Association for Project Management, International Council on Systems Engineering, and by

the International Organization for Standardization are contrasted with industry specific practices, including the U.S. Food and Drug Administration, NASA, and the Departments of Defense and Energy. Case examples are based on relevant experience. Participants perform hands-on implementation of processes in realistic team working sessions and facilitated dialogue. Optional quantitative tools workshops and tutorials will be available beyond scheduled course work for those who are interested.

SM 607. Psychodynamics of Organizations. (C) Hirschhorn.

Prerequisite(s): Course permits for Non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: A; DYNM Concentration: LMC. Course Meetings: Thursdays 9/15 to 11/3. Saturdays: 10/15 & 11/12.

As an area of study, the psychodynamics of organizations draws out attention to the tacit, implicit, and unconscious dimensions of organizational life. It presumes that a person takes up his or her role at work by drawing on both individual history and the organizational context that helps define a role, its boundary, and the resources available to take it up. In both these aspects, the organizational context, and one's individual biography, people are often unaware of the thoughts and feelings that animate their behavior. This course will introduce students to some basic concepts of psychoanalysis, which focuses on individual motivation, and systems psychodynamics, which focuses on group dynamics and group psychology. System psychodynamics also emphasizes how an organization's primary task, or its "reason for being," influences individual experience. Readings include case studies as well as expositions of theory. The instructor will also draw on his own consulting cases.

This course meets Thursdays from September 15th to November 3rd. In addition there will be two 8-hour Saturdays on October 15th and November 12th.

SM 608. Organizational Dynamics of Working in a Global Marketplace. (C)

Tschoegl. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

This course examines some of the sources of confusion, conflict, misperception and error that arise when representatives of U.S. organizations interact and work in the global marketplace. The aim is to heighten awareness, help avoid personal or

professional pitfalls, and to more effectively manage some of the organizational and business challenges that arise when operating across dissimilar environments. We will focus on areas including: ethics, culture, language, ethnicity, religion, gender, the political and legal systems, labor, corruption, and corporate organization. Each class session will begin with a short, interactive introductory lecture, followed by discussion around assigned readings and mini-cases.

SM 610. Knowing Yourself: The Coach as an Instrument of Change. (C)

Napier. Prerequisite(s): Non-DYNM students must complete a course permit request form: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: A; DYNM Concentrations: LMC, OC. Course schedule: January 16 & 17; February 27 & 28; April 2.

Note: This class is predicated on the assumption that prior to offering coaching assistance, a coach should have a deep understanding of his or her own behavior and its impact on a client. Utilizing validated tools and strategies available for coaches, the students practice sets of coaching skills on each other. This includes practice in interviewing and observational skills. In addition, students will have the opportunity to give and analyze 360 degree feedback data, as well as use a variety of other instruments that can be foundational for a useful coaching experience. Premise: Coaching others is very serious business. Intrepid individuals willing to take on this responsibility should be willing to answer the following questions: Who am I as a leader and helper? What are the assets I bring to the coaching relationship? What are my deficits, overused strengths, or underutilized skills and behaviors? What historical influences from my family of origin influence my capacity to build a positive relationship with my coaching client? Are there discrepancies in relation to my self-perceptions and those who know me well--family members, peers, colleagues, friends, boss, and direct reports? As a result, are these specific areas of personal development that I need to address as I move?

Similar to most traditional programs where the focus is on the management of change, the course is organized to: 1) A diagnostic phase in which the values, history, assumptions, and behaviors of the client will be assessed. In this case the client will be the student/coach. 2) The applied phase in which analysis,

interpretation, and formal learning will be the central focus. The end result will be individuals with a deep and abiding understanding of their own psychodynamics and their personal impact. Finally, by modeling many of the tools and strategies useful in any effective coaching effort and practicing them on themselves and their student peers, it is hoped that the experiential nature of the course will allow maximum transference to the real work of coaching.

SM 611. Effective Collaboration for a Changing Global Workplace. (M)

Boyer, Legatt, and Newberry.

Prerequisite(s): Non-DYNM students must complete a course permit request form: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Categories: F, DE; DYNAM Concentrations: LMC, GL. Course Schedule: 9/24 & 25; 10/22 & 23; 11/19 & 20; 12/3.

Effective collaboration requires a combination of strong self-awareness and an ability to make adjustments at the individual and group level. This course provides tools for building teams that leverage individual strengths and a mutual learning process for continuously addressing collaboration barriers to improve team performance.

This seminar/lab is designed to extend each participant's analytical skills and gain practice implementing high performance practices through a team-based simulation. Specific learning objectives are to: 1. Understand leading-edge frameworks for building effective teams. 2. Learn and apply tools for diagnosing barriers to collaboration. 3. Develop implementation plans for teams and organizations consistent with best practices. 4. Provide tools for self-assessment of participants to leverage their strengths for teamwork success. 5. Apply learning from classroom-based teamwork simulation to participants' real life experiences.

The course will be conducted in a university classroom and use several breakout rooms for teamwork among participants. Case study teams will use web-based communication software (TBD) for inter-session collaboration on projects. Weekly facilitated discussions by course instructors will be conducted at each weekend session.

SM 612. Mastering Organizational Politics and Power. (C) Eldred.

Prerequisite(s): Course permit requests for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Category: A; DYNAM Concentration: LMC.

The purpose of this course is to explore, enhance, and expand the participants' competence in organizational politics. Students will observe political dynamics as they occur in their own organizations and will interview senior managers in other organizations to learn how political realities vary from one organization to another. Theoretical ideas about a dimension of organizational politics of particular interest to each individual participant will be analyzed in a term paper. In addition, each participant will keep a personal diary of political dynamics in his or her own workplace. The course will also explore ways to master the political skills of networking, negotiating, influencing, leading, and following, as well as developing a political strategy.

SM 613. Is Bigger - Inevitable, Better or Worse in Organizations?. (C) Licht.

Prerequisite(s): Non-DYNM students must complete a course permit request form: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Category: F; DYNAM Concentration: LMC. Course Schedule: 1/16, 23, 30; 2/6, 20 & 27. 1/16 is 9 to 12; all other meetings are 9 to 5.

Is the modern large corporation alienating, inflexible, unproductive? Is the small organization or work team engaging, innovative or creative, productive? Has it always been this way in the U.S.? Is change possible? In this unique, informal, "turbo" seminar, we will examine the large corporation in terms of history, governance and control, and delivery of (office) work. We will consider whether "bigness" and bureaucracy are inevitable, and how organizations of the present, and probably the future, are affected by those of the past. This seminar has been structured to cover a good deal of ground in a short time. The seminar will meet on six Saturdays. The subject matter of this seminar is the large-scale organization. Questions to be raised include: 1) Is the modern large corporation alienating, inflexible, and unproductive? 2) Are bigness and bureaucracy inevitable? 3) Is the small organization or work team engaging, innovative, creative, and productive? 4) What does the historical record for the United States reveal? 5) Are organizational alternatives and change possible?

SM 615. Global PENNovation: The Food-Water-Energy Nexus. (B) Finn.

Prerequisite(s): Non-DYNM students must complete a course permit request: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Category: A; DYNAM Concentrations: LMC, GL, SD. Course schedule: 1/25, 2/1, 13, 22 & 29; 3/19 & 28; 4/9 & 25.

Environmentalist Paul Hawken challenged a class of 2009 college graduates that they would have to "figure out what it means to be a human being on earth at a time when every living system is declining, and the rate of decline is accelerating." That theme is at the heart of this course. While we have seen the notion of sustainability gaining some traction in recent years, our quality of life in the near future very likely hinges on the development and implementation of sustainable solutions to enormously complex environmental and social problems. This course is designed to foster the thinking that is needed to address those enormous problems. It involves focusing on a critical global problem with sustainability and social dimensions - in this case, the need to balance global food, water, and energy needs in a manner that allows the world to feed 9.6 billion citizens by 2050 while preserving the environment for future generations. PENNovation is a course about innovation, idea generation, collaboration, leadership, communication, research, decision-making, sustainability, sustainable solutions, creative thinking, leading change, and complex problem-solving. Class members take a deep dive into a major sustainability challenge while also gaining experience in how to lead global teams.

The nexus: the world faces the imminent challenge of feeding roughly 9.6 billion citizens by 2050, an increase of about 2.3 billion (31%) from 2015. Yet we are not successfully feeding the global population today. FAO reports that about 800 million global citizens are hungry, and nearly 2 billion suffer from micronutrient deficiencies. The World Economic Forum reported that global freshwater demand is expected to exceed current supply by over 40% by 2030-- just 15 years from now-- while evidence of shortages is increasingly clear in heavily populated areas such as California, Sao Paolo, and China. Demand for energy continues to rise; the International Energy Agency notes that global energy demand is set to grow by 37% by 2040. An increasingly affluent population is straining the world's already scarce resources, particularly in end goal of this course will be to produce a world-class product including the quest for animal

protein, yet we continue to waste vast amounts of food (between 1 and 2 billion tons annually) and exacerbate social and environmental problems in the process. How can the world balance all of these challenges, meeting global needs for food, water, and energy security while protecting the quality of the environment and preventing social unrest? What approaches are needed? How can the needed changes be implemented?

In 2016 the PENNOvation class will focus on the many challenges and opportunities involved in balancing the world's food, water, and energy needs. The group will take a systems approach to the problem, aided by contributions from several thought leaders from business, NGOs, and non-profits in a unique class format. Our expectation is that the world will benefit from their work. Deliverables can include: final group paper, a website, an awareness-raising event, a social media campaign, or presentation.

SM 617. Economics of Human Behavior and Organizational Life. (L) Handy. Prerequisite(s): Course permits for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Category: F; DYNAM Concentrations: LMC, SD.

As a society, we choose many different ways to organize different aspects of our lives. The institutions and organization we choose to provide us with the necessities and comforts of life range from the fundamental institutions of family and religious organizations, to firms in the capitalistic market and democratically elected governments. We respond to this environment in unique ways: we marry, we worship, we buy and sell goods and services, and we vote. The primary goal of this course is an examination of the various aspects of human behavior in the context of organizational and institutional life from an economic perspective. We recognize that the choices we make are sensitive to the costs and benefits of different actions and use this economic perspective to gain insights into social, economic and political behavior in our daily lives. We start the course with an examination of how micro economists view the world and examine their favorite toolkit. We discuss concepts such as: efficiency, opportunity cost, marginal analysis, externalities, incentives, free-riding, rent-seeking, and transaction costs. These concepts are fundamental if an economic perspective and they will be presented using every day examples.

Before concluding the course, we will look at several topics such as: Human

capital and investment in education (Should you invest in an Ivy League school education?); Law and enforcement (When is it profitable to break the law?); Bribes and gifts (Quid pro quo?); Economics of information (Used cars and the market for "lemons"); Why we discriminate against minorities?; Property rights and externalities (The tragedy of the commons: Should we have smoke-free environments?); and Free-riding (Should I vote in the next election? Should I volunteer to clean up?)

SM 618. Strategic Crowdsourcing and Business Models 2.0. (M) Villarroel. This course will be in a hybrid in-person and online course.

Crowdsourcing is among the most impactful innovations in organization of the 21st century, enabling the rise of distributed organizations. In this course, we will learn the radical business models used by a new generation of companies that transcend the format boundaries of the firm--e.g. Uber, oDesk, Kickstarter, among hundreds of such distributed organizations. The crowdsourcing economy is rapidly expanding, with at least 117 distributed work companies receiving venture capital in 2013--up from 17 in 2009 and 55 in 2011 (The Economist, 2015).

Entrepreneurs taking this course will understand how crowdsourcing startups made big strides in the global economy. For example, five-year-old Uber--founded in 2009--developed operations in more than 50 countries, reaching sales of \$1 billion in 2014. It received \$3.3 in venture capital, valued at more than \$41 billion in December 2014 (The Wall Street Journal, 2014). Uber offers an online platform connecting self-selected drivers and users who use a smartphone app to interact with the service. Any interested driver, who has a car and a smartphone, can sign up to be an Uber driver.

Managers taking this course will learn why, when, and how crowdsourcing--as a new organizational extension of the firm--enables established companies to streamline their traditional business functions. From making everyday work more efficient, to solving challenging R&D problems, to exploring new markets. Innovative firms embracing crowdsourcing gain a competitive advantage from engaging with online crowds who hold valuable resources otherwise not available to "traditional" competing firms--e.g. knowledge (e.g. InnoCentive), services (e.g. oDesk), etc. This course fulfills the following requirements: Categories: DE, A Concentrations: LMC

Akin to the moving assembly line characteristic of the industrial revolution, crowdsourcing is a revolution in the organization of knowledge work, which is already changing the fabric of business and society on a global scale. Through case studies, project work, and online discussion of original research, this hands-on course provides concepts and frameworks that explain the business models of a new generation of distributed organizations.

SM 619. Organizational Project Management. (C) Choukroun.

Prerequisite(s): Non-DYNM students must complete a course permit request form: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Categories: F, A; DYNAM Concentration: LMC. Course schedule: TBA.

The course provides an overview of the concepts, procedures and fundamental processes of project management for working professionals. Participants are introduced to the principles, tools and techniques of project management within an integrative framework. The course emphasizes that, for most organizations, projects are the primary means for implementing strategic initiatives.

Course Objectives: 1) Understand and critically evaluate expectations, procedures and processes of program management as currently practiced in large for-profit enterprises; 2) Understand the content and processes and standards of practice as defined by the Program Management Institute (PMI); 3) Understand how to build and manage effective project teams; 4) Become familiar with the critical components of effective project plans. In addition to the scheduled meeting dates, additional class activities will be planned between faculty and students.

SM 620. The Coach: Applying Tools and Skills in the Field. (C) Napier. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

Coaching insinuates change, and most meaningful change is, at some level, therapeutic. This course will explore the dynamics of change as a therapeutic process. Whenever individuals have the nerve to "help" others, self-understanding must come front and center. As a master coach once said, "Who in the hell do we think we are helping others unless we are willing to take a very hard look at ourselves--our behavior, our impact, our projections and biases?" Not only must we ask hard questions of ourselves and resolve our own issues that could corrupt our

effectiveness, but we also need to model the most productive behaviors possible. The questions for students of this course include: 1) Are you willing to look? 2) Are you willing to be fiercely honest with yourself and with your fellow students? 3) Are you prepared for the responsibility that goes with mucking around in someone else's life? What makes this particular coaching course unique is that it affords students the opportunity to experience a full range of coaching practices in a relatively short amount of time. The expectation is that the students will have identified a potential client that will be discussed during the first class (although no firm agreement would have to be reached prior to that time).

The student/coach will be guided each step of the way through the coaching process which will include a) contracting with the client; b) engaging in a thorough diagnostic exercise for the client including interviews, observations and a complete 360 feedback cycle, c) analyzing the data, d) feeding the results back to the client, e) engaging the client in problem solving and an action plan designed to help increase the client's effectiveness.

SM 621. Project Portfolio Management. (C) Bayney.

Prerequisite(s): Non-DYNM students must complete a course permit request: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Course Category: A; DYNM Course Concentration: LMC.

The primary objective of this course is to enable participants to gain a thorough understanding of and appreciation for the discipline of Project Portfolio Management. Ill-defined and poorly utilized in many organizations, Portfolio Management has struggled to become inculcated within the fabric of these cultures without direct intervention and sponsorship from the highest levels of Senior Management. Beginning with a decidedly strategic focus, the course brings together the very essence of Portfolio Management--technically robust analytics--with the softer elements of communication and decision-making to enable portfolio value maximization. The course is structured in such a way that it follows a unique Portfolio Management framework--CREOPMTM-- created by the authors Bayney & Chakravarti in their book titled Enterprise Project Portfolio Management: Building Competencies For R&D and IT Investment Success. In each of the first 6 classes, the framework is followed sequentially and is then applied holistically to a case study in the final classes. The impact of risk and uncertainty

to the quantification of project, program, and portfolio value is addressed through classic program and portfolio optimization. Students will be expected to apply many of the principles taught in this course to their own organizations and to deliver

class presentations that address portfolio strategy, linkages between organizational plans, decomposing complex decisions, project prioritization, portfolio optimization, and Stage Gate Review (SGR) processes. In their final paper, students will be presented with a choice of analyzing their organizations portfolio health or a selected Kellogg School of Management case study in Portfolio Management using the CREOPMTM framework.

SM 624. Program Management Skills and Systems. (C) Heaslip.

Prerequisite(s): Non-DYNM students must complete a course permit request: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Course Category: A; DYNM Course Concentrations: LMC, OC.

The objective of Program Leadership Skills is to provide students with an understanding of current principles and best practices in the maturing field of Program Management. Students will investigate the relationships between Program Management, Project Management and Portfolio Management as separate but co-dependent disciplines and examine the importance of each to the successful achievement of organizational goals. Focusing on Program Management, the course will examine the unique challenges that are faced when managing organizational activities that principally pursue strategic goals and that must be responsive both to the outcomes of activities being pursued and changes in strategic direction. The course will provide a forum for discussing the various types of Programs that organizations pursue and for understanding how Program Management best practices can be applied to each type of Program. The course will explore the need to adapt Program Management principles in a context-specific way to ensure that Programs deliver their expected organizational value. Moreover, it will examine how--despite qualitative differences between Programs--common approaches can be used to assess Program Management maturity and performance and to define the skills required of a successful Program Leader.

At the conclusion of the course, students will be expected to understand current best practices in Program

Management and to determine how to initiate or improve upon Program Management practices in their own organizations.

SM 625. Ethnography of Everyday Life: A Master Class. (L)

Prerequisite(s): Course permits for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Categories: DE, A; DYNM Concentration: LMC. Meeting Schedule: 7/15, 16, 23, 30; 8/6.

Ethnography is a fundamental method within the social sciences that concerns the systematic study of culture. It involves a "thick description" of how people actually live their everyday lives, personal or professional. Ethnographers study how human groups form institutions and how these structures grow, function, maintain themselves, and persist. Also at issue is how people share their understandings and develop ideologies pertaining to these processes. Social negotiation and the development of "local knowledge" in the culture of interpersonal affairs will be emphasized, particularly as it is transmitted from one generation to the next. Through direct observation and discussion, students will treat Philadelphia as an "urban laboratory" and seek to identify, to study, and to learn about local people and places. In this vein, the class will visit communities and organizational settings to gain exposure to ordinary people but, particularly, to apply ethnographic methods to the complexities of the modern workplace as well as to everyday life of the city. The final paper will be a synthesis of ethnographic literature and observations of local urban life and culture, particularly as these issues apply to understanding and organization or a local community.

SM 626. Leading the Professional Service Organization. (C) Eldred.

For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

The purpose of this seminar is to understand appropriate leadership behaviors for professional services. Students will gain first hand exposure to prominent leaders of diverse service organizations, and will research how those leaders both develop and deploy their leadership agenda. This course fills the following Organizational Dynamics requirements: Categories: A Concentrations: LMC

SM 627. Classics of Organizational Behavior. (C) Barstow. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

The purpose of this seminar is to critique the thought and practice of several "big names" in organizational behavior, while establishing the continuing relevance of their work to today's organizations. Frederick Taylor (Scientific Management), The Hawthorne Studies (Human Relations), Kurt Lewin (Group Dynamics), Eric Trist (Socio-Technical Systems) and others will be read in their primary sources, giving participants the opportunity to form their own opinion of these classic field studies.

Participants will read primary sources in the field as well as more recent critical scholarship. They will then present short papers to the class in the model of an academic conference, followed by discussion. Participants will debate their own views in this conference atmosphere as if both the founders and their critics were present. In addition to the readings and discussion, participants will view a taped oral-history interview with Eric Trist and a film of Kurt Lewin's famous experiment on leadership styles. Each participant will present two brief papers to the class and will submit a longer final paper.

SM 628. Organizational Diagnosis: Diagnostic Strengths for Effectiveness. (C) Kaminstein.

Prerequisite(s): Course permits for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Categories: DE, A; DYNAM Concentration: LMC.

This seminar is designed to help participants learn multiple approaches to diagnosing the complex ways in which issues and/or problems manifest themselves in organizations. Frequently, when organizations find themselves in trouble, i.e., there are rumblings in the system about such things as lack of leadership, poor communication, diminished productivity, low morale, etc., there is a tendency to frame the problem(s) simplistically and/or locate blame in a few difficult individuals or groups. However, upon closer examination, problematic issues are often found to be symptomatic and/or symbolic of multiple issues within the organization. This course will help students understand how problems which appear at one level of the system (for example, at the personal or interpersonal level) often represent problems at other levels of the system (e.g., at the group and/or institutional level) or signify a range of inter-related issues. It will provide students with the theoretical

constructs and application skills necessary for identifying and framing problem areas, collecting data, and organizing feedback to client systems. Real-time examples will inform our discussions as we consider the relationships between diagnosis, organizational reflection and appropriate action.

SM 629. Organizational Consulting: Proseminar in Organizational Development. (C) Starr. Prerequisite(s): Course permits for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Categories: F, DE; DYNAM Concentration: LMC.

This course describes and examines Organization Development (OD) and Change (OD&C) competencies through the lens of the guidelines promoted by the worldwide Academy of Management and professional OD societies such as the OD Network. We read and discuss from the academic and practice literature how these competencies emerge from models and theories and about how they "should" be applied. At the same time, OD&C consulting practitioners, theorists, and corporate officers visit our class to describe how they actually do select and apply their models and their competencies which include, for example, establishing and managing organizational coaching programs; applying different OD models in large-scale organization change initiatives; managing change in virtual and global teams; managing change in cultures outside North America; and using change methodologies such as Appreciative Inquiry (a blend of positive psychology and systems thinking) to create idealized development and growth. Students interested in organization development and change, internal or external management consulting, or how to better manage in their own developing and changing environments will benefit from this course.

SM 630. The Discipline of Value-driven Business Process Management: Strategy Execution in a Digital World. (A) Kirchner and Naidoo. Prerequisite(s): Course permits for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Category: A; DYNAM Concentration: LMC.

Business strategies and operations are driven by scores of ever-shifting factors: from demographic changes and capital availability to technological innovations and increasing regulation. Static business models are rarely able to keep pace with such dynamic change; and this is why companies need a management approach

that fits to this environment. In effect, they need to know how and when to modify or enhance their business processes, which processes are optimal candidates for intervention, and how to move rapidly from business strategy to execution. Business Process Management (BPM) helps organizations master change successfully and create immediate as well as durable competitive advantage. BPM has become a management discipline that delivers significant business value. It is implemented through the "process of process management" that addresses all aspects of the lifecycle of a business process: design, implementation, executive and controlling of processes.

This seminar discusses how organizations master the "process of processes management" to achieve the right BPM maturity level to move efficiently and effectively from business strategy to execution, achieving goals like transparency, agility and compliance, quality and efficiency, internal integration and external networks. It addresses topics like creating a BPM roadmap, innovation, process governance and centers of excellence, integration of business and IT, the value-driven use of process repositories, as well as selected aspects of process automation including the concept of Service Oriented Architectures (SOA) and the "Enterprise 2.0." In this course framework, approaches, methods and software for achieving and maintaining a high performance business will be discussed using real live examples and case studies. Business Process Management (BPM) is introduced as a holistic management discipline.

SM 633. Leadership from the Middle of the Organization. (C) Stankard. For additional information, please see our website at:

<http://www.organizationaldynamics.upenn.edu>.

Durable organizations have learned to encourage innovation from within. This course's objective is to give Organizational Dynamics graduates the skills and practical knowledge to organize change and improvement from a middle position within an existing organization. The course seeks to prepare students to assume responsibility for acting without authority by becoming the leader they have been looking for. The course's learning objectives are: (a) to gain a working understanding of the pragmatic, ethical/moral, and cognitive foundations for leading informally from mid organization; (b) to adapt an existing Leading from the Middle (LfM) process to each student's actual situation; and (c) to carry out small

scale actions in accordance with the process between classes, and in each class to coach students in learning by doing leadership arts and skills such as negotiating, maximizing the feasibility of change plans, enlisting and coordinating cooperation on a team, identifying and addressing stakeholder points of view, maintaining legitimacy of an initiative, and crediting all who help.

Students who take this course should already be concerned about one or more important opportunities or upsetting challenges in their present or previous organizational surroundings. The instructor will coach the class in functioning as an idealized design team. The design process has two phases, a base case projection and an idealized design. Phase 1, the base case projection, formulates the current reality without change, and projects the likely undesired effects and outcomes of maintaining status quo. Phase 2, idealized design, creates a leadership approach that all stakeholders would wish for, if all their feasible, sustainable and adaptable wishes could come true today. By participating in a design process, the class itself models many group dynamics of an actual LfM situation. Scholarly Commons describes the work done in this class with examples. (Please see Stankard, Martin (2011). Guest speakers from earlier years are invited to share experiences with course content and answer questions. This course fills the following Organizational Dynamics requirements: Categories: DE, A Concentrations LMC, OC

SM 634. Process Improvement Tools and Strategies. (C) Stankard.

Prerequisite(s): Course permit for non-DYNM students:
<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Categories: DE, A; DYNM Concentration: LMC. Course Schedule: TBA.

Process improvement as taught in this course often provides high-leverage, high visibility opportunities for showcasing coaching and leadership skills as a member, coach or leader of cross-functional process improvement teams. Cross-functional process improvement teams (running lean and six sigma projects) have evolved into a major pathway for developing leadership and coaching talent in such organizations as Baptist Healthcare, Federal Express, Ritz Carlton, Toyota Motor Co, General Electric and Motorola.

Process improvement project leaders and team members use specific tools and capabilities to analyze as-is processes and to define and deploy new or improved

processes that deliver better outcomes and customer satisfaction with less non-value added effort. Leading or serving on cross-functional process improvement teams creates opportunities to work and network with people from other parts of your organization and creates opportunities for visibility to executives and managers sponsoring strategic improvements. Participating in or leading process improvement is also a great leadership, coaching and professional development activity.

SM 635. Organizational Essentials for Leadership. (L) Choukroun.

Prerequisite(s): Course permits for non-DYNM students:
<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Course Category: F; DYNM Course Concentration: LMC. Course meeting schedule: 6/11 & 25; 7/9, 16, & 23.

Through presentations by expert speakers, case discussions, and participation in team projects, students will review and evaluate critical issues from across the frames of business, including general; human resource; marketing; information and stakeholder management; leadership; corporate culture; communications; organizational behavior; sales, marketing and public relations; finance and financial reporting; ethics and social responsibility; unions and government relations; and business law. Each of these elements will be studied in light of changing environmental conditions, including the economy; society; consumer behavior; market trends; regulation; politics, unpredictable events such as 9/11; organizational change; history; and internationalism.

SM 636. 21st Century Leadership Development: Integrating Cultural Influences into Coaching Practice. (C) Reyes.

Prerequisite(s): Course permits for non-DYNM students:
<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Course Category: A; DYNM Course Concentrations: LMC, GL, OC. Meeting Schedule: 6/1, 25, & 26; 7/23 & 24; 8/10.

Coaching has been used to support high-level leadership, to develop high potential talent, to overcome or remediate deficiencies or unproductive behaviors, and to support or manage performance during periods of change. As the use of organizational coaching has grown over the last decade, globalization of the economy has transformed organizational markets, operations, and workforces so that "culture" routinely influences interpersonal, group,

and organizational interfaces. In this context leadership requires an ability to recognize and leverage the "cultural diversity" inherent in teamwork, communication, collaboration, conflict, and change. Coaching, as a leadership development practice, must help leaders grow in their ability to recognize and leverage the national, professional, functional, and organizational cultures that influence workforce engagement, productivity, satisfaction, and innovation.

This course is intended for students with an interest in culturally complex leadership and organizational development. This course has a dual purpose. First, through reading, class discussion, and written reflection, the course will enhance student understanding of coaching models, methods, and cases informed by cross-cultural psychology, intercultural communication, anthropology, and international business disciplines. Secondly, through guided practice, students will develop their skills in coaching across cultural differences. Students will coach one another through a self-assessment, development planning process, and initial movement toward their objectives using Rosinski's global coaching process as one illustrative example of this kind of coaching. This course is a hybrid of online and in-person meetings on the following schedule: 6/1: In-person and online; 6/25 & 26; 7/23 & 24: In-person; 8/10: In-person and online.

SM 637. Creating High-Performing Groups and Teams: A Course in Real-Time Experiential Learning. (C)

Rodney Napier. DYNM Course Category: A; DYNM Course Concentrations: LMC, OC. Residential course: 8/5 to 8/10.

This course will be offsite in Pennsylvania, August 5th through 10th, 2016. This course will have an additional course fee to cover lodging and other program logistics. Registration permits will be issued upon signed Travel Agreement being returned to the Organizational Dynamics program office. This course is limited to 12 students.

This five-day, offsite program is more about the "how" to develop high performing teams than the intellectual "what" of such teams. For five days the twelve members will immerse themselves into what differentiates a high performing team from the dysfunctional teams with which we are familiar. We will take a deep dive into the fundamentals of any group or team in our efforts to become such a team. We will, along the way, learn about the art of design --internalizing the skills and tools essential for building strategic interventions

into a team in real time. Not only will we design them, but also will be critiqued in relation to the quality of our efforts as well as to the facilitation skills we used during the process.

This course is not for the faint of heart, with participants leaving their names and histories at the door. We will learn by doing and relate what we learn to both theory and research. Everything done during the five days will be "intentional," with a keen eye toward the consequences of our behaviors and their impact on the evolving team. That will mean long days and an occasional long evening. While not a walk in the park, it will be full of laughter and personal insights that should have a lasting impact on the student as leader, far after the program ends. The course is limited to twelve students, and each must be interviewed to make certain that this experience is what they are ready for. After all, the course involves dealing with challenging group dynamics and accompanying issues of power and authority, with dominating personalities; managing differences; building trust; and dealing with the myriad issues that often drive groups, teams, and meetings into dysfunction.

SM 638. THE PRACTICE OF ORGANIZATIONAL LEADERSHIP. (M) WING.

This is a practical course designed to help participants engage in reflective practice regarding their own leadership and their relationship to leadership by others. Students will present for discussion case material from their workplaces or other settings and we will also explore leadership through in-class experiential exercises. Foundational readings will provide a common language and conceptual framework. Along the way, we will revisit the fundamental questions: What is leadership? What is good leadership? What do I intend to do differently going forward?

640. Virtual Collaboration. (C) Reyes. Prerequisite(s): Non-DYNAM students must complete a course permit request: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Course Category: A; DYNAM Course Concentrations: LMC, GL.

NOTE: Logitech ClearChat Headphones and Logitech QuickCam Pro9000 are required for this course. Please see the syllabus for other requirements. Across the globe companies, both large and small, are increasingly conducting culturally complex work through technology channels and virtual personnel transfers, making multi-

cultural organization and virtual work inextricably intertwined. In this context electronically mediated collaboration and communication capabilities across time, distance, organization, culture, and other knowledge boundaries have become necessary for the everyday work of telecommuters, virtual teams, remote managers, professional knowledge communities, and electronic marketplaces.

This course is primarily intended for students with an interest in globally distributed work and collaborative virtual organizations. The purpose of this elective is to enhance student understandings of virtual forms of human collaboration and to develop student abilities to work jointly with others via electronic tools. This course design makes typical social patterns encountered in virtual organizations visible so that students can learn from participating and collectively reflecting on their course experiences. This course has an online course fee of \$150.

SM 650. Outdoor Dynamics. (C) Barstow/Havely. DYNAM Course Category: A; DYNAM Course Concentrations: LMC, SD. Travel Course Dates: 8/5 to 8/13.

This course explores the implications of past and future changes in land use and population changes over time in one of the least densely populated areas of the country, but which serves as both a winter and summer playground for millions of urban residents each year. Set in the White Mountains of New Hampshire, only a day's drive for over 10 million Americans, the area boasts some of the most pristine and exotic microenvironments in the world, left from the last Ice Age. Over 250,000 people visit the summit of Mt. Washington, the region's highest peak, every year, driving, hiking or riding the cog railway to the top. The focus of this course is the growing interest in promoting "sustainable development," which most people envision as protecting the environment and wild species from human encroachment and pollution. The course will examine the human sphere and the natural sphere as common ground in the analysis of competing issues; areas of compatibility; and future plans to promote a sustainable environment in this region. The course will focus on three themes: 1) how the people and institutions tasked with being the environment's guardians go about their jobs; 2) how the area is used by visitors; and 3) how industry and its stakeholders have worked with local regulators and politicians to create jobs and promote growth.

The course will ask students to overlay the principles of sustainability and issues

management, in managing the increasing concern that the trajectory of land use and industrial growth will compromise the region's native ecology and wilderness and backcountry attractiveness. Left to its own momentum, how will the future of the area fare versus promoting and implementing more sustainable goals? Changes in behavior will be needed to bring the two into line, and that leads to organizational dynamics. How will stakeholders resolve the natural tensions of the institutions' (primarily those that operate in the region) mission and development goals with outsiders' desires? What leverage do they and others have in the debate over the future of the region? In addition to an active outdoor week in the White Mountains, participants will meet with key players and leaders from the area and come away with a deeper understanding of the major issues in the tensions between "the place no one knew and the place that got loved to death."

SM 651. Group Team Dynamics: Understanding the Overt and Covert Dynamics that Support Effective Work. (C) Kaminstein. Prerequisite(s): Non-DYNAM students must complete a course permit request:

<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Categories: DE, A; DYNAM Concentrations: LMC, OC.

Although groups and teams are often lauded as the mechanisms that provide the competitive edge for organizations in today's challenging economic environment, there is often little attention paid to the deeper social and psychological currents influencing group and team dynamics. Organizational leaders and facilitators frequently lack an in-depth understanding of how work groups, multifunctional teams, and cross-national executive groups develop, operate, accomplish their goals--or not--and end. Team members often struggle to make meaning of the myriad spoken, as well as unexpressed, factors influencing the process and outcomes of the groups of which they are a part. This course, by emphasizing both theory and practice, provides students with a thorough grounding in the ways groups and teams develop and learn. The class will also examine approaches to building group and team competencies related to effective communication, conflict-resolution, and solving complex strategic problems as well as ways to manage the range of intentional and more hidden dynamics that both support and challenge high performance.

The course is designed to include seven 3-hour classroom meetings across the semester and two extended sessions that

will afford students the opportunity to explore various theoretical frameworks. In addition to drawing on the extensive literature and research in group dynamics and team building, the class will rely on experiential methods to help students develop keener understanding and insight into the ways in which their own leadership and followership dynamics, as well as the dynamics of the group-as-a-whole, influence their team's ability to accomplish its tasks.

SM 653. Coaching Others to Manage Conflict. (C) Napier. Prerequisite(s): Course permits for non-DYNAM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Category: A; DYNAM Concentration: OC. Meeting Schedule: 8/27 & 28; 10/1, 2, & 22.

Not a day goes by when you or I, or a person we are coaching, is not faced with some tantalizing, challenging conflict. It may be with someone we love, a conflict in a team, a struggle between two direct reports, a difference with our boss or the challenge of a difficult, perhaps aggressive person in a meeting we facilitate. The problem is not that there is a conflict. The problem is that most of us have a very thin, often inadequate repertoire of responses to the conflicts that engage us on a daily basis. The result is that all too often we are predictable in our responses. Thus, if we take these same limited skills and attempt to provide them to a client in our role as a coach, the consequences will more than likely be similar.

This course is about expanding your repertoire of responses to a wide array of conflict situations. In the process, you will increase your understanding of the theoretical constructs that underlie successful conflict management. Not only will your strategies for managing a variety of conflicts expand, but you will be better able to design unique responses that relate to the particular situation with which your client is faced. How you translate these ideas to your clients and, in the process, provide them the confidence to use them, will be a central theme throughout the course. There is an attempt to provide a balance between intellectual theory, skills, and applied strategies along with the time to practice them.

SM 655. (GAFL555) Using the Political Process to Effect Organizational Change. (C) Gale and Brady. Prerequisite(s): Course Permits for non-DYNAM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Category: A; DYNAM Concentration: LMC.

At one time or another, each of us has said something like, "I know what to do to make some really effective--and possibly even profitable--changes in this organization, but the politics make it almost impossible to get anything done." The sense is that, although there are changes that should be made to improve organizational performance, politics (internal, external, governmental) simply obstructs our ability to make a difference. Frustrations notwithstanding, depending on how it is employed, politics can be either an impediment or, more importantly, a source of opportunities for improving organizations. Politics is the art and science of coordinating individuals, departments, management, markets--the entire organizational environment--to effect a balance between the organization's objectives and the methods used to achieve them. As with the other factors that are employed to affect organizational performance--the methods used to improve manufacturing, marketing, sales, finance, and so on--politics is a means that organizations can use to initiate and maintain critical personal and institutional relationships.

One of the seminar readings--Latimer's "Why Do They Call It Business If It's Mostly Politics?" is used to provide illustrations of the ambiguous nature of much of what is regarded as organizational politics. What is critical to understand and appreciate from the outset, however, is that politics is not an external factor that is imposed on organizations. Politics is not only a means for achieving personal or institutional power; it is also a method for developing and maintaining personal and institutional relationships within and among individuals and organizations of all types. This seminar will discuss organizational politics and the ways that it is used to identify, characterize, and effect change--both within and among organizations. After reviewing several perspectives on organizations and the roles that political processes play in decision-making, a series of cases is presented that illustrate the contexts and conditions for effective political communication and coordination.

SM 656. The New Normal: Racial and Ethnic Diversity in the 21st Century Workplace. (L) Charles. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

This course examines the social construction of race and ethnicity, including relations within and across groups, with a particular focus on their implications for organizational culture and management. In a very real sense, the workplace is a microcosm of the larger society; a place where our individual experiences, beliefs, and biases related to race and ethnicity intersect, creating both opportunities and challenges. Our capacity to understand the different backgrounds and experiences that individuals and groups bring to the organization, as well as recognizing our own biases and the biases of others are directly implicated in our ability to both manage and be managed in the organizations that we are a part of. A primary objective in this course is to increase our capacity to first understand the contours of racial and ethnic diversity in twenty-first century America by investigating (1) the historical context that influences present-day understandings of racial/ethnic diversity (2) how and why individuals from different racial/ethnic backgrounds can "see" the same thing but interpret it very differently, depending on experience, culture, and social position relative to race/ethnicity (3) the meaning and importance of dominant and minority groups, the degree to which a racial hierarchy exists, and the implications of that

hierarchy for important outcomes (4) the degree to which the workplace is, indeed, a microcosm of the larger society (5) the pitfalls of "colorblindness" (6) the nature of stigma and its workplace implications and (7) the benefits and drawbacks of affirmative action policy in the workplace.

SM 661. Organizational Culture Change: Theory and Practice. (C) Vanderslice. Prerequisite(s): Non-DYNAM students must complete a course permit request: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Category: A; DYNAM Concentration: LMC. Course Schedule: 1/25 & 30; 2/8 & 20; 3/14 & 5; 4/2.

The importance of organizational culture as a factor that can influence organizational performance either positively or negatively gained renewed attention beginning in the mid-1990's. The success of high-profile firms with "quirky cultures" like Ben &

Jerry's, the entrepreneurial cultures of high tech firms that countered the cultures of traditional corporations, a recognition that organizational culture can be a major factor in organizational performance and the related emergency of "high performance organizations", acknowledgment that organizational culture can trump the implementation of organizational strategy, differences in values of workers from different generations, competition among companies to attract the best employees, and the failure of many once-promising mergers and acquisitions all pointed to the importance of understanding and intentionally managing organizational culture.

This course will address many of the major debates about organizational culture as well as provide students with tools for better assessing and understanding organizational culture and managing culture change. Course material and discussions will consistently address issues related to both theory and practice.

SM 662. Entrepreneurship and Leadership: Creating Winners. (C)

Keech. Prerequisite(s): Course permits for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: A; DYNM Concentrations: LMC, SD.

Peter Drucker once famously said that "entrepreneurs innovate." The course looks at how innovation drives the entrepreneurial process in both large organizations and in startup ventures. It stresses the importance of bringing entrepreneurial vision and energy to all organizations: profit and non-profit, as well as government and institutional. The course examines the characteristics of successful entrepreneurs. Participants will learn how to develop their own entrepreneurial instincts and how to encourage an entrepreneurial culture in their organizations. The course examines the challenges of startup ventures and provides practical information to participants who are considering an entrepreneurial venture. It explores strategies for identifying opportunities, creating successful business models, valuing a business, raising capital and managing the business.

The course builds understanding of how a culture of entrepreneurship and innovation are critical to any organization that wants to survive and prosper in the future. The course discusses how sustainability is becoming a global force for change, creating exceptional entrepreneurial opportunities. The course looks closely at the leadership roles of both

the CEO in a large organization and the entrepreneur in a venture. The course examines how leaders in all kinds of organizations set priorities, identify game-changing opportunities, shape the organizational culture and motivate their teams to achieve outstanding performance or, sometimes, fail. The course stresses the leadership responsibilities of the board of directors in providing governance and oversight in both for-profit and non-profit organizations.

SM 663. Green Skepticism: Communicating and Implementing Sustainable Business. (C)

Heller. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

Green initiatives are creating competitive advantage for businesses. Smart companies are integrating environmental stewardship into their strategies, operations, marketing, and product innovation. Companies that successfully embed sustainability in their their core business strategy and culture-- rather than "bolting it on" as a peripheral activity - are gaining the most value added. Embedding sustainability requires the active engagement of all organizational stakeholders, many of whom may be green skeptics, dubious of the need to change. "Many people who feel passionately about sustainability cannot relate to those who have a harder time understanding the need for a change..." - Corporate associate & MBA candidate. The business case for sustainability has been made many times, yet skepticism about the need for change remains widespread. While adopting sustainable business practices must make sense financially, an economic argument alone may not be enough to convince people to purchase green business products and services or to implement sustainability practices. The course is based on the assumption that "task significance" is an important factor for implementing sustainable business practices. This means helping people see the connection between small tasks they are being asked to do and the big picture of global

sustainable business. The first part of the course focuses on understanding sustainability driven changes in the global business landscape through a coherent framework. The second part of the course focuses on what those changes mean for business fundamentals: consumption, production systems, innovation, and emerging economies. The third part of the course focuses on communicating and implementing sustainable business strategies and initiatives. Students will

have the opportunity, with a team, to design a communication and implementation program for an organization. Throughout the course, strategies and tactics that work to engage skeptics who do not understand the need for change, as well as tactics that don't work, will be studied. The course is based on the instructor's experience leading hundreds of business and environmental professionals from skepticism to enthusiasm for sustainable business over the past decade. This course is designed for everyone tasked with engaging others in implementing sustainable business practices and for entrepreneurs selling green business products and services. It will provide strategies for enhancing a technical and economic sales pitch. The course is also for those who may be skeptical themselves, and want to reconsider their skepticism. Categories: A Concentrations LMC, SD

SM 664. Organizational Culture and Learning. (C)

Barstow. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

What is organizational culture? What is organizational learning? How do organizations learn effectively and change their culture? A learning organization is skilled at creating, acquiring, and transferring knowledge, and at modifying its behavior to reflect new knowledge (Garvin, 1993). According to Ray Stata, Chairman of Analog Devices, "The rate at which individuals and organizations learn may become the only sustainable competitive advantage." However we define and prioritize organizational learning, we must still struggle with how to do it. This is a tougher question. The thesis of this seminar is that an enriched understanding of culture can enhance organizational learning. Participants will explore the concept of culture, study the work of Chris Argyris, and discover practices and behaviors that promote organizational learning and culture change. The objective of this seminar is to help participants get beyond highly abstract philosophy and develop a deeper understanding and useful skills based on these concepts.

This course will meet on the following Wednesdays: May 27th; June 3rd, 10th, and 17th; July 22nd and 29th.

SM 666. Systems and Design Thinking. (A) Pourdehnad.

Prerequisite(s): Course permits for non-DYNM students:

<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: F; DYNM Concentrations: LMC, SD.

This class is designed to challenge the traditional thinking of basic management strategy and practice. Through a series of lectures, interactive cases, and group discussions, faculty will challenge participants to rethink their assumptions and move beyond the traditional practice of management strategy formulation and execution. The prevailing pattern of thought employed by management is analytical. Analysis has come to dominate thought in the western world. But no amount of analysis can explain systemic interaction and organizational behavior. A new pattern of thought is required: synthetic. Systems Thinking involves both analysis - to produce knowledge of organizations (systems) - and synthesis to provide understanding. Without both, effective solutions to problems cannot be obtained. To go beyond understanding to wisdom requires awareness of the difference between doing things right (efficiency) and doing the right thing (effectiveness). The better we do the wrong thing, the more wrong we become. Today a great deal of energy is expended by organizations in an effort to increase the efficiency with which wrong things are done.

SM 667. Building a Business Case for Sustainability. (C) Barstow. For additional information, please see our website at:

<http://www.organizationaldynamics.upenn.edu>.

What are the systemic changes that an organization must undergo in order to become sustainable? (Sustainability is defined here to mean that no aspect of business operations is harmful to the planet or future generations.) We will examine the issues of sustainability using Peter Senge's work on learning organizations, the Swedish sustainability model, The Natural Step, and Russell Ackoff's idealized design as our frameworks for building a business case for sustainability within an organization or department.

Class participants will be asked to build a business case for sustainability within an organization or department and to prepare an interim progress report (5-7 pages) plus a final paper (15-20 pages) using the concepts and principles covered in this course and then will present their

case to the class in the last sessions of the course.

SM 669. The Power of Confusion. (C)

Stankard. Prerequisite(s): Non-DYNM students must complete a course permit request: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: A; DYNM Concentrations: LMC, OC. Course Schedule: TBA.

Confusion is a lack of clarity about some situation that matters to you, which causes you to feel so uncertain or uncomfortable that you have a hard time making decisions. You may be confused about whether you fit into an organization; or about what work makes you feel great versus work that you are good at or about the right thing to do when you are frightened. The power of confusion is that it forces you to stop and seek clarity in your life and career. This seminar addresses seven types of personal and organizational confusion encountered in organizational life during a professional career: 1) confusion over which personal ethics, skills, and talents you find most meaningful; 2) confusion over discovering what is really going on in an organization; 3) confusion of who is in charge-- leadership and which direction 'we' are moving toward? 4) confusion over 'what's in it for me?' How motivation and satisfaction relate to incentives and pay schemes; 5) confusion caused by blaming, rather than developing skills needed to make lasting changes and improvements; 6) confusion about how teams pull together? 7) confusion caused by committing random acts of improvement instead of building a system for making customer-oriented organizational innovations and improvements.

You were not born with any inherited knowledge or wisdom, yet you are certain to face fear and confusion during your lifetime. You were born with curiosity and the ability to ask 'why?' when you face a confusing situation. You were also born with the ability to think for yourself, listen to others, and learn from experience. Confusion spurs you to use these abilities to gain the clarity that leads to understanding and wisdom; you will need tools to guide your learning. This seminar will show you how to use simple tools to achieve that clarity.

SM 671. Workplace Ethics: Ownership, Participation, Productivity. (B) Lamas. Prerequisite(s):

Non-DYNM students must complete a course permit request form: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: F; DYNM Concentration: LMC.

In this course, you will have the opportunity to: 1) examine ethical, religious, legal, technological, and economic bases for different ownership systems from early human history through the 20th century; 2) develop a theoretical framework for understanding ownership issues in the contemporary workplace; 3) review social science concerning ownership and the related organizational issues of motivation, performance, productivity, profitability, culture, diversity, and equity; 4) analyze a variety of cases to measure ownership's effects across many industries and business situations; 5) learn about various forms of ownership and compensation in use today in small and large organizations, both public and private; 6) utilize a diagnostic tool for assessing the ways in which your own organization's culture and business outcomes are impacted by the firm's ownership system; 7) describe your own experiences of the different ownership systems with which you may have engaged, including: family, schools, little leagues and professional sports, volunteer service organizations, charities, religious institutions, professional service providers (e.g., doctors, lawyers, veterinarians), the places where you shop (e.g., think about Genuardi's before and after it was sold to Safeway), and the different places you have worked...as a way of

systems; 8) assess and refine your views regarding ownership in light of your own social, political, religious, and ethical commitments. Who is going to own what we all have a part in creating? The history of American business is an evolving answer to the question of ownership. Of all the issues relevant to organizational dynamics, ownership is arguably the most important and least understood. Matters of ownership have also been and remain of intimate concern to ordinary Americans--the slave yearning to be free, the young couple with a dream of home ownership, the entrepreneur who wants to be his own boss, the consultant who wants to form a partnership with her best friends, and the indebted, mid-level manager reviewing last year's 401(k) statement.

SM 672. A Systems Approach to Crisis Preparation and Organizational Resilience. (C)

Freeman. For additional information, please see our website at:

<http://www.organizationaldynamics.upenn.edu>.

Educational Objectives: 1. Awareness of crisis as a part of life and social systems; macro-level crises that could affect you; organizational/individual crisis vulnerability; types of organizational crises; group, family and individual crises. 2. Understanding of: nature and phases of crisis; what to do before, during and after a crisis; crisis psychology/decision-making; security strategies-anticipation vs. resilience; Skills, models and practices of resilience; systemic vulnerability/systemic resilience. 3. Enhance ability to: think critically; develop expertise; adopt a systems perspective; articulate and communicate your thoughts cogently, concisely and compellingly. 4. Apply course-related knowledge to be able to successfully foresee and weather crises. General Education Philosophy. This course fills the following Organizational Dynamics requirements: Categories: A Concentrations: LMC, SD

The course includes travel to New York and the World Trade Center site, and lectures at Columbia University to understand what can happen during and after a crisis.

SM 673. Stories in Organizations: Tools for Executive Development. (M)

Greco. Prerequisite(s): Course permits for non-DYNM students:

<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Category: A; DYNAM Concentration: LMC.

As we all know, living in-and out-of-organizations is getting exponentially harder. Things seem to be multiplying, splintering, and coalescing kaleidoscopically, and each of us is increasingly taxed to make sense of it all let alone create meaning for ourselves and those we manage and care about. Remarkably, a powerful tool for helping us is one we have already mastered: stories. As humans we think, feel, speak, listen, explain, and believe in narrative form. Yet this capability is dramatically under-exploited at work. This course examines a variety of ways to bring the power of stories to organizational life. We will look at how stories enhance communication, support change, and intensify learning and development in individuals and organizations, thus informing your leadership style and effectiveness. We will have many opportunities in class to apply

"story-based technologies" to issues you face in personal or professional life. Readings come from the literatures of human development, narrative psychology, organizational change, executive learning, and, of course, from literature itself.

SM 676. Communication Competence: Extracting Value in Key Organizational Interactions. (C)

Brian Shapiro. DYNAM Course Category: A; DYNAM Course Concentrations: LMC.

Often an organization can facilitate its own success by employing fundamental communication practices during value-latent interpersonal interactions. In this course we explore the direct relationship between competent communication and the ability to extract maximum value in most Key Organizational Interactions. Starting off on a personal development note and building off time-tested principles, participants will conduct their own communication skills assessment to determine their own communication strengths and identify specific areas for improvement. Qualities such as effective empathy and active listening are also explored. Moving into the organizational realm, together we define then locate those Key Organizational Interactions, both within and external to the organization, that significantly impact how that organization is perceived. We explore all the possible value points within these Key Organizational Interactions, how they tie into the organization's strategic objectives, and how to best approach them interpersonally.

SM 677. Human Capital and Human Nature: Sources of Creativity and Innovation. (C)

Bauer. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

Goal: To mine the resources within yourself, cultivate and engage others, and build with them. Every one of us is potentially wired for creativity, however, each of us is unique. How can we understand the research and use it to understand ourselves, our colleagues, and our world? How do we know what is real?

SM 679. To Thrive Or To Survive? Our Question in the Evolving World. (C)

Bauer. DYNAM Category: A; DYNAM Concentrations: LMC, GL.

The seminar focuses on the implications for our own work and personal lives as we reinvent ourselves, our organizations, and our society in what is often called "the new normal." We begin with a realistic exploration of the relationship of the global

economy to the widely different political systems which provide individuals with safety nets. We compare the United States to China and Europe and the ways in which our different systems both compete and support each other. Each participant will research a portion of the regional job market, analyzing the source of investments, patents, required skill level and experience of employees, and competitive outlook. The final presentation and paper will fit their regional analysis into the global picture. Where does it fit? What are its risks?

SM 683. Quantitative Project Risk Analysis Methods and Tools. (C)

Hornbacher. Prerequisite(s): Course permits for non-DYNM students: <https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNAM Categories: DE, A; DYNAM concentrations: LMC, SD. Course Schedule: 9/10, 17; 10/1, 15, 29; 11/5, 19; 12/3, 17. This course will have a software fee, TBA.

DYNM 683 is an unusual opportunity for students to develop a working knowledge and set of skills in a seminar conducted by an experienced subject-matter while using their own Windows PC computers. Quantitative project risk analysis of cost estimates, critical path networks, and integrated cost-schedule models is a highly specialized capability that industry and government organizations increasingly seek to deploy. Sophisticated tools and methods used in this course can be applied across industry domain boundaries and are scalable from mega projects to volatile start-ups. These world-class tools and best practices have been validated through use in public and private organizations. (Academic licenses will be provided with the course.) Prospective students need previous experience using spreadsheet software (an installed version of Microsoft Excel is required). Also, it is preferable, but not required, for students to have some experience with planning/scheduling software (for example, Microsoft project or Oracle Primavera P6). Please contact the instructor with questions and to clarify expectations.

The course is composed of 4 modules, each of which will be approximately two sessions in duration. Learning objectives are to answer these important questions-- How confident are you in achieving your project's cost and schedule objectives? What can you do to improve your confidence? Will the right resources be available to implement your responses when needed? Module 1: Develop project plans with resources and costs during uncertain conditions Module 2: Implement

spreadsheet quantitative cost risk analysis (Monte Carlo simulation) Module 3: Implement Monte Carlo simulation of plans, CPM schedules, and decision trees Module 4: Integrate cost and schedule risk analysis using Monte Carlo Simulation.

SM 689. Balance of Power in the Global New Normal. (C) Bauer.

Prerequisite(s): Course permits for non-DYNM students:
<https://www.sas.upenn.edu/lps/graduate/dynamics/course-permit>. DYNM Category: F; DYNM Concentrations: LMC, GL, SD.

The economy is global and every successful business in every nation must operate with awareness of its place in the interconnected dynamics of local, national, and global issues. This course uses many lenses, such as history, culture and economy to understand the global issues, their interconnections, and the impact they may have in different places, on different organizations, and in our personal decisions. Each of us needs to be able to engage systems thinking as we aim to understand others from the inside and ourselves from the outside. The central relationship in the global new normal is the United States and China. The weekly readings begin with recognition of the centrality of a liberal for the United States and the effect that has on China and the cultures of East Asia. This sets up three frames of reference: Human Rights, Democracy, and Capitalism. Current and potential Organizational Dynamics students with interest in Global Studies, particularly those focusing on Systems Thinking, (Sustainable) Development Policy, and international courses will find this course helpful. MPhil students with MSOD background can use this course as a foundation for advanced research in Global Studies.

SM 692. Innovation in Organizations. (C) Freeman.

For additional information, please see our website at:
<http://www.organizationaldynamics.upenn.edu>.

Most serious study of innovation has focused on its dynamics and how these dynamics can be managed. A broader range of studies also consider the nature of creativity and techniques to facilitate innovation. We survey these areas, emphasizing the relationship between innovation and organization, which are central to innovation both as facilitators and impediments. More generally, we consider the process of Organizing Innovation, the role of individuals, teams and organizations in effecting change and realizing its benefits. I cover one additional theme--

improvisation--because it provides insight into dealing with novel situations, and also as antidote to the relentless organizational and institutional pressures that crush the "impulsivity" and "deviance" that we need for creativity and innovation. In the end, though, the core of the course are the real issues of your life and work. Creativity begins with questions, innovation begins with problems, and education begins with you. Reflect on the central issues of your life and work and come prepared to share them with the class. The success of your experience rests on a willingness to explore your core interests and take a leadership role in molding the course to meet them. This course fills the following OrganizationalDynamics requirements: Categories: A Concentrations: LMC, SD

SM 693. (INTS693) The Global Leader. (C) Taheripour.

For additional information, please see our website at:
<http://www.organizationaldynamics.upenn.edu>.

The "Global Leader" is a co-listed INTS/DYNM course, developed as part of the Lauder Institute's new Global Program that will prepare students for leadership roles in international and culturally diverse environments. The course will focus on developing skills through a hands-on approach that includes using case students, in-class exercises, movie clips, and class discussion, with readings that emphasize theory and application. The course is comprised of two modules. The first module - Globally Capable Leadership - will introduce students to the core qualities of leadership that transcend cultures, as well as examine how cultural context influences leadership efficacy. The second module - Managing Across Borders - will teach students how to negotiate effectively in a variety of contexts, including conflict resolution, transactional settings, conflict resolution, and across borders, such as those of gender, ethnic identity, national culture, and differences in values and beliefs.

SM 705. Capstone Course. (C) Barstow and Russo.

DYNM Category: Capstone. Section -001 is all in-person. Section -002 is an online and in-person hybrid course. This course requires the student to study a topic of their own choice, discuss their progress with the class in regular meetings and to deliver a final paper that meets the following criteria: (1) Makes an argument, describes or summarizes a position that is unique, original, or which directly applies to the student; (2) Uses primary sources or applies to a primary organization as much as possible; (3) Conforms to the style and

format of good academic writing and the MSOD Capstone Presentation Guidelines; (4) Allows a student to demonstrate competencies gained from the courses completed in the Organizational Dynamics program.

The role of the capstone professor is to coordinate the development of each student's capstone committee, to offer facilitation during peer-review discussion of student work as the capstone is written, and to post the final grade. The course professor may also be the student's primary advisor, or a reader. For details about the capstone course, including delivery dates, please see the DYNM Canvas community site.

SM 720. Foundations of Organizational Consulting and Executive Coaching. (C)

Bergey/Pennington/Russo. Prerequisite(s): This course is for OCEC Cohort members only. DYNM Category: F; DYNM Concentration: OCEC. Course Schedule: 9/8-9/13.

This first course in the cohort program of the Organizational Consulting and Executive Coaching concentration is an introduction to group dynamics, the helping relationship in coaching and consulting, and the adult development journey. It begins on Thursday night with dinner and runs 8:30 am through dinner on Friday, Saturday, and Sunday, concluding on Monday at noon.

This course is a residential course. This course will have an additional course fee to cover lodging and other program logistics. Registration permits will be issued upon a signed Travel Agreement being returned to the Organizational Dynamics program office.

SM 722. Making Meaning from Organizational Experience and Establishing Frameworks for Consulting and Coaching. (C)

JACOBS. Prerequisite(s): This course is for OCEC Cohort members only. DYNM Category: F; DYNM Concentration: OCEC. Course Schedule: TBA.

The cohort will reconvene to collectively "unwrap" the five-day intensive. Using their journals and observations, participants learn how to apply relevant theory and concepts to make meaning of their experiences and to analyze and interpret behavior at multiple levels. Then, using their knowledge of applying theory to practical experience, participants will develop a theory-guided consulting and coaching framework. Here they research, present and apply a framework of their own choosing.

This course fulfills the following Organizational Dynamics requirements: Categories: A Concentrations: OCEC

SM 723. Consulting and Coaching Process: Knowing Yourself. (C)

Pennington. Corequisite(s): This course meets on the following weekends: March 19 to 21; April 16 & 17; June 4. DYNAM Category: A; DYNAM Concentration: OCEC.

Participants learn to be coaches by being coaches to one another. Over a two-month period, cohort members expand their repertoire of skills and tools, share their experiences, and together scrutinize the client/coach relationship.

SM 724. The Coaching and Consulting Process: Tools and Techniques. (C)

Russo. DYNAM Category: DE; DYNAM Concentration: OCEC. Course Schedule: 1/9 & 10; 2/20 & 21.

This course will offer a conceptual comprehension of the tools and techniques used in effective internal and external organizational consulting engagements. By contrasting the theory and practice of alternative coaching models, we will build tools and techniques for effective coaching as a leadership competency. Through an analysis of the coaching relationships in your organization, you will learn to develop a personalized approach to coaching and expand upon within organizational settings. Participants learn the "how and why" as well consulting frameworks. Additionally, the relevant and often symbiotic connection between consulting and coaching will be studied. What process tools are most useful to today's executive coach in a consultative environment? How do approaches to consulting and coaching differ? How are they similar? How can a confluence of coaching and consulting lead to more effective decision making and wide-scale organizational performance? DYNAM 724 will be presented over five class meetings. The class sessions will be taught utilizing lectures, case studies, structured small group discussions, individual, and team presentations, faculty and participant experiences, and guest speakers.

SM 725. Interpretation & Problem-Solving & Managing Conflict. (C)

Napier. Corequisite(s): DYNAM726. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

Participants explore sources of problems and conflicts, identify the range of choices for resolution, and spend time in the field

identifying and resolving conflicts at the personal and team levels.

SM 726. Expanding Coaching/Consulting Tools and Skills. Russo/Napier/Orenstein.

Corequisite(s): DYNAM725. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

Competencies are expanded into more complex aspects of team and organizational change. Having experienced the art of design at a micro level, they now examine it as a means of enhancing larger system change. The cohort explores the nature of system change and how it relates to changing teams and individuals.

SM 727. Practicum Experience in Consulting and Coaching. (C)

Russo/Napier/Orenstein. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

Participants integrate everything they have learned by contracting with a client to provide consulting/coaching services. Individual supervision is provided on a weekly basis by a core faculty member and peer supervision is provided in two clinics, where cohort members share their experiences and learning with one another and, at the conclusion of the second clinic, bid the cohort farewell as members are now ready for their internship experiences. This course is open to OCEC students only. This course fills the following Organizational Dynamics requirements: Categories: A Concentrations: OCEC

SM 729. Executive Coaching Internship. (C)

Jacobs/Pennington/Russo. DYNAM Category: A; DYNAM Concentration: OCEC.

In this course, each participant is exposed to a variety of executive coaching opportunities designed to enable them to utilize their skills in multiple situations and contexts. Access to an advisor/coach during this period ensures that each participant's advanced learning will be provided in a timely and individualized manner.

SM 730. Capstone Portfolio Preparation and Proposal. (C)

Russo/Napier/Orenstein. Corequisite(s): DYNAM729. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

In this course, students demonstrate their consulting and coaching mastery and scholarship by creating their

capstone/thesis summary proposal.

Throughout the program, participants will have systematically codified their learning experiences through the delivery and accumulation of various papers, project results, and other measures of performance. These will be contained in a Personal Portfolio which includes a record of understanding the assigned literature and classroom-based theory and experiences. In addition, each individual's personal coaching philosophy is framed in a theoretical and model developed over the course of the program. Personal reflections and insights are an essential aspect of the ongoing record of learning. Using all of these as source material, the participant writes and assembles a full case history drawn from the Practicum (DYNAM 727) and the Internships (DYNAM 728 and DYNAM 729).

SM 753. China in Transition: The Context and Consequences of Economic Reform and Opening to the Outside World. (L)

deLisle. Corequisite(s): DYNAM 754. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

The course will focus on the reforms and international openness that have transformed China during the last quarter century, and their political, social and legal contexts and consequences. Several specific topics will receive detailed attention, including reforms to China's economy (including the creation of a market economy, and changes in enterprise ownership and management and financial institutions), the role of foreign trade and investment and other channels of external influence, rising affluence and inequality, political reform and liberalization, and the development of the legal system. Students will experience contemporary urban China firsthand and see important cultural and historical sites and artifacts, providing a basis for assessing the influence of Chinese traditions and legacies in the People's Republic today. In China, we will meet with foreign and Chinese business people, government officials, academics and others.

SM 754. China in Transition: The Context and Consequences of Economic Reform and Opening to the Outside World. (L)

deLisle. Corequisite(s): DYNAM 753. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

The course will focus on the reforms and international openness that have transformed China during the last quarter

century, and their political, social and legal contexts and consequences. Several specific topics will receive detailed attention, including reforms to China's economy (including the creation of a market economy, and changes in enterprise ownership and management and financial institutions), the role of foreign trade and investments and other channels of external influence, rising affluence and inequality, political reform and liberalization, and the development of the legal system. Students will experience contemporary urban China firsthand and see important cultural and historical sites and artifacts, providing a basis for assessing the influence of Chinese traditions and legacies in the People's Republic today. In China, we will meet with foreign and Chinese business people, government officials, academics, and others.

SM 758. Sweden: Strategies for Thriving in the 21st Century. (L)

Barstow. For additional information, please see our website at:
<http://www.organizationaldynamics.upenn.edu>.

Neutral during WWII, and claiming a "Middle Way" between east and west in the post-war twentieth century, Sweden - its people, institutions, and culture - has left its mark on our global society. In today's world, the influence of Swedish ideas and innovations can be seen in government structures, health and social policies, business organizations, working life, education, science, art, literature, and, of course, the design and style of many products and services which enjoy high demand. These are impressive impacts from a nation-state of only eight million people. What lessons are there for Americans and our institutions as we enter the twenty-first century where our leadership position, ability to determine the rules and control the agenda of world economic and political affairs are diminished? In this course, we focus on "the people philosophy" of Sweden, its government, businesses and organizations. We cover healthcare issues and policy, sustainable development, the European Community and the human relations issues in organizations.

This course will include meetings with academics and leaders from industry, government, health care, science, media, arts and culture. Students will meet with and learn from these representatives in order to explore Swedish organizational dynamics, both in terms of its economic prosperity and the problems Swedish society faces today.

SM 766. Perspectives on Change in the Czech Republic. (L)

Steiner. For additional information, please see our website at:
<http://www.organizationaldynamics.upenn.edu>.

Students will have the opportunity for a brief "professional match" while abroad. Prior to departure, the domain of professional practice of each student will be identified in order to determine a match with a person or organization in Prague. A person working in the financial sector or in human resources, for example, will have an opportunity to spend time with a colleague working in a similar area in the Czech Republic. Course objectives are: 1) Understand the high points of the previous history, culture and economics within the region; 2) Understand the routes of the transformation process from an organizational perspective; 3) Understand how the current changes in the economy, culture, and structure influence society and the transition to democracy; 4) Appreciate the environments of a major Central European city and regional towns; 5) Study with representatives of the region's academic, political, cultural, and business environment in order to compare these processes to those in the U.S.; 6) Demonstrate understanding of the issues presented in this course by writing a final paper.

SM 770. Global Communications. (C)

STEINER. For additional information, please see our website at:
<http://www.organizationaldynamics.upenn.edu>.

Says an Indian businessman to his American counterpart: "In your country you give money to politicians before they pass legislation and you call it lobbying. In my country we do so afterwards, and you call it corruption." This anecdote illustrates well the cultural relativity of all concepts: what one society considers a legitimate "profit" is elsewhere "usury" or exploitation. This is the problem faced by American companies considering expansion into any new foreign market. National identities expressed through subtle customs, laws, institutions and behaviors are not always obvious, even when there are no apparent language problems. Understanding the complex regional influences of geography, history, religion, and culture is key to anticipating how local norms are reflected in market preferences, social, political and economic institutions, and work attitudes.

This seminar will explore various topics of cultural studies and how they affect values and behavior. Participants

will be encouraged to focus on a specific foreign culture and, through assigned readings, film, and literature, analyze its various aspects. Alternatively they may develop, either in teams or individually, a questionnaire about cultural attitudes and carry out a pilot survey in their own organizations. A significant portion of the course will take place in Montreal, one of North America's oldest cities, a veritable turnstile of peoples from around the world, whose cultural relations are to some degree regulated by Canadian multicultural policies.

771. Micro-Finance in India: The Past, Present and Future.

Handy. For additional information, please see our website at:
<http://www.organizationaldynamics.upenn.edu>.

This 2CU course includes travel and study in Bangalore, Mangalore and Mumbai, India, a country acknowledged as the world's largest democracy with a population of over 1 billion. India has a thriving microfinance industry that has come under scrutiny in the past year. While micro finance has been touted by many as the panacea in helping raise people out of poverty, empower women and aid in development from the grassroots level, it has come with some serious attendant costs. This course will discuss a variety of different models of micro finance and review the new trends of financial inclusion for the poor.

We will start in Bangalore and continue to Mangalore, where we will visit local development projects, microfinance women's groups, and meet organizational leaders. We will see firsthand how and if micro finance and financial inclusion "work effectively" to achieve the goals of alleviating poverty. While in Mangalore, students will attend and participate in a conference: Micro Finance in India: The Past, Present and Future, being held at Nitte University. We will hear experts speak on current issues and how new legislation in India may change the face of micro finance. We will end the program in Mumbai, one of the most populous urban regions in the world and the richest city in India with the highest GDP of any city in South, West or Central Asia.

SM 786. Multi-Organizational Project Management. (M)

Choukroun. DYNM Category: A; DYNM Concentrations: LMC, GL. Travel Course Dates: 5/21 to 5/29.

In the interconnected world of global corporations, studying Project Management from the standpoint of U.S. firms is not

enough. Broadening perspectives is the goal of the seminar in Paris, France. Dr. Jean-Marc Choukroun will lead Organizational Dynamics students in a study of European approaches to the challenges of large project management, particularly those involved in public-private and other multi-group projects. Dr. Choukroun notes that "In today's global economy, managing multi-national, multi-cultural teams, devising innovative financing arrangements and securing public-private cooperation are increasingly becoming standard requirements for complex projects. European integration has made dealing with these issues a priority with many European organizations. Students will be exposed to new ideas, and new ways of applying time-tested methods and techniques that European organizations in general, and more specifically French organizations, have developed to address

these issues. Properly adapted, some of these ideas should prove to be readily applicable in the US context. In addition, students will discover how French managers in the public and private sectors frame issues, approach problems and implement solutions."

899. MPhil Capstone Course. Starr. For additional information, please see our website at: <http://www.organizationaldynamics.upenn.edu>.

This course requires the student to study a topic of their own choice, to discuss their progress with the class (in regular meetings) and to deliver a final paper that meets the following criteria: 1) Makes an argument, describes, or summarizes a position that is unique, original or which directly applies to the student; 2) Uses primary sources or applies to a primary

organization as much as possible; 3) Conforms to the style and format of good academic writing and the MPhil Capstone Project presentation standards; 4) Allows a student to demonstrate competencies gained from the courses completed in the Organizational Dynamics program.

The role of the MPhil Capstone course professor is to coordinate the development of each student's capstone committee, to offer facilitation during peer-review discussion of student work as the capstone is written, and to post the final grade. The course professor may also be a student's primary advisor or a reader. For details about the MPhil capstone course, including delivery dates, see the MPhil capstone course page.

733. SEM CLS ARAB P/P.

PHARMACOLOGY (MD) {PHRM}

495. (CHEM495) HIGH THROUGHPUT DISCOVER. (B)

510. (INSC596, NGG 510)

Neuropharm/Neurochem. (J) Staff.

Prerequisite(s): Permission of course director. Meets two times per week.

Neurochemistry and neuropharmacology of the central nervous system. Lectures cover the structure and properties of neurons, neurotransmitters and signal transduction. Students are expected to already have an understanding of the material in Cooper, Bloom and Roth, THE BIOCHEMICAL BASIS of NEUROPHARMACOLOGY, or its equivalent. Course readings will be both primary and review articles.

532. (CAMB532) Human Physiology.

534. (GCB 534) EXPERIMENTAL GENOME SCI.

SM 542. (CAMB542) Topics in

Molecular Medicine. (A) Skip Brass, MD, PhD; Gary Koretzky, MD, PhD; Mark Kahn, MD. Prerequisite(s): Permission of the course directors. The course is designed primarily for combined degree (MD/PhD) students, but will be available to all medical and graduate students as space permits.

Priority will be given to 2nd and 2nd year combined degree students. The optimal class size will be 14. Tentatively, the course will meet for one hour from 4 - 5 pm on Wednesday afternoons with occasional double sessions that will be two hours long.

TiMM is planned as a once-weekly seminar course whose goal is to introduce students to the ways in which biomedical research can provide new insights into clinical medicine and, conversely, how knowledge of clinical disease impacts scientific discovery.

550. (NGG 576, PSYC750) Advanced Topics in

Neuropsychopharmacology. (B)

Lucki and staff. Prerequisite(s): Permission of instructor. Meets two times per week.

Biological issues relevant to neuropsychiatric illnesses are covered in detail in four sections. The first section covers clinical aspects of major psychiatric disorders and includes some contact with patients. The second section presents the neuroanatomy of the limbic system. In the third section, emphasis is on the mechanisms of action of psychotropic drugs, including antidepressants, antipsychotics, anxiolytics, and stimulants.

The final section covers information relevant to understanding biological processes that may be abnormal in neuropsychiatric illnesses, such as stress, sleep, and circadian rhythms, as well as quantitative genetics.

564. (CBE 564) DRUG DELIVERY.

In this course, students will learn about drug delivery systems with emphasis on targeted therapeutics and translational nanomedicine. The course will be directed and taught by Miriam Wattenbarger (CBE) and Vladimir Muzykantov (PHRM).

Lectures will also be given by other faculty from the Penn School of Engineering and Applied Science and the School of Medicine. The four main topics for the course are traditional drug delivery, drug delivery systems and nanocarriers, targeted and smart drug delivery systems, and translational aspects of drug delivery systems. There will be a midterm, final, and a group project for the course.

Students will form small groups for the project and research a drug delivery topic to propose an extension of a current research area. An oral and written proposal will be given by each group to the class at the end of the semester. The course is open to SEAS seniors and graduate students, SAS college pre-med, pre-BE and pre-BGS seniors, biotechnology MS students, PGG and BGS graduate students, Wharton and Dental School students.

570. Principles of Cardiovascular

Biology. (B) Drs. Vladimir Muzykantov

and Emer Smyth. Prerequisite(s): Permission of course director.

Lectures to be presented by various Medical School faculty members. Topics covered include: general principles of vascular biology and hemodynamics, endothelial cells and integral vascular functions, signaling in the cardiovascular system, angiogenesis, hemostasis and thrombosis, platelets, platelet/vascular interactions, vascular integrins and adhesion molecules, vascular inflammation and oxidative stress, white blood cells, vasoactive compounds and drugs, mechanisms of atherosclerosis, cholesterol and lipid metabolism, hypertension, novel vascular directed gene and enzyme therapies.

SM 580. Topics In

Pharmacogenetics. (B) DR. A.

STEVEN WHITEHEAD. Prerequisite(s): Permission of course director.

This is a "literature-based" course (i.e. a seminar course/literature survey). It will survey the emerging technologies and computational advances that have permitted

the field of pharmacogenetics to mature into a major biomedical discipline over the past few years. It will consider the likely impact on disease target identification, the development of new drugs for established and "niche" markets, the advent of "personalized medicine", including the selection of therapies that have maximum efficacy and minimum side-effect profiles. This course will also touch on some of the ethical issues associated with the routine genetic testing of patients to facilitate treatment choices and clinical monitoring.

590. (REG 590) Molecular Toxicology: Chemical and Biological Mechanisms. (B) Dr. Trevor M.

Penning. Prerequisite(s): Pre-requisites: Must have taken or will take Fundamentals of Pharmacology concurrently.

Undergraduate course work in biochemistry and chemistry essential. Exceptions allowed based on past course work. Please consult with Course Director. Students: All 1st and 2nd year GGPS, CAMB, Neuro and BSTA students with required prerequisites; residents in Environmental and Occupational Health, and professional masters students (MPH and MTR).

Course Goals: Exposures to foreign compounds (drugs, carcinogens, and pollutants) can disrupt normal cellular processes leading to toxicity. This course will focus on the molecular mechanisms by which environmental exposures lead to end-organ injury and to diseases of environmental etiology (neurodegenerative and lung diseases, reproduction disruption and cardiovascular injury). Students will learn the difficulties in modeling response to low-dose chronic exposures, how these exposures are influenced by metabolism and disposition, and how reactive intermediates alter the function of biomolecules. Mechanisms responsible for cellular damage, aberrant repair, and end-organ injury will be discussed. Students will learn about modern predictive molecular toxicology to classify toxicants, predict individual susceptibility and response to environmental triggers, and how to develop and validate biomarkers for diseases of environmental etiology. Students are expected to write a term paper on risk assessment on an environmental exposure using available TOXNET information.

600. Medical Pharmacology BIOM

600. Axelsen and staff. This course focuses on the mechanism of action of various classes of agents used in the therapy of human disease. Drug classes covered include neuropsychiatric drugs, anesthetics, sedatives and hypnotics, cardiovascular and hematological drugs, drugs affecting renal function, inflammation and immune modulation, anticancer drugs, antimicrobial drugs, endocrine and metabolic drugs. The course is comprised of four 1-hour lectures per week by faculty with special interests and expertise in the topic being presented. Student evaluation is based on four short answer exams. This course is intended for non-PGG students with an interest in molecular basis of drug action.

Prerequisites: Cell Biology (BIOM 600).
Prerequisite(s): Permission of the instructor. Class meets four days a week.

This course will review basic human physiology pertinent to drug action, and then focus on the mechanisms of action of the various classes of agents used in the therapy of human disease. It consists of lectures by an array of faculty with special interests and expertise in the topic being presented. Drug classes covered include: Neuropsychiatric drugs, cardiovascular and hematological drugs, anticancer drugs, antimicrobial drugs, endocrine and metabolic drugs.

623. (REG 623) Fundamentals of Pharmacology. (A)

Dr. David Manning and staff. Prerequisite(s): Permission of course director. Meets three times per week.

This course is designed to introduce students to basic pharmacological concepts with special emphasis on the molecular actions of drugs. Subject matter includes use of microcomputers to analyze pharmacological data.

624. MEDICAL PHARMACOLOGY.

Axelsen and staff. This course is centered on the molecular basis of drug action. It is comprised of four 1-hour lectures per week (as described for PHRM 600) and supplemented with weekly problem sets and readings designed to reinforce and expand upon materials presented in lecture. Student evaluation is based on four exams and weekly problem sets. PHRM 624 is required of all 2nd year PGG students. PGG students must co-enroll in PHRM 532/CAMB 532 (Human Physiology). Prerequisites: Cell Biology (BIOM 600).

630. (BMB 700, CHEM700) Frontiers in Bioorganic and Medicinal Chemistry. (A)

Dr. Ian Blair, Dr. Barry Cooperman, Dr. Dewey McCafferty. Prerequisite(s): Permission of the courses directors.

This advanced course for graduate students will be based primarily on didactic lectures from three Penn faculty. Permission for a student to participate should first be obtained from one of the participating faculty. A solid background in chemistry and biochemistry will be required. Overviews of current and emerging topics in bioorganic and medicinal chemistry will be presented. Students will be given short "take home" problem sets, two formal interim examinations, and a formal final examination during the semester. Topics that will be covered over the semester include: Mass spectrometry of DNA and DNA-adducts, Synthetic peptides/peptide mimics/proteins, including the expansion of the genetic code; methods of synthesis and applications, Synthetic RNAs, DNAs and nucleic acid mimics: methods of synthesis and applications, Synthetic oligosaccharides: methods of synthesis and applications, Combinatorial chemistry, Enzymology of translation, Antibiotic biosynthesis, Introduction to drug metabolism, Characterization of drug metabolites, Characterization of reactive metabolites from drugs and endogenous molecules, DNA-adducts from drugs and endogenous molecules, Lipidomics in drug development.

SM 632. (CAMB632) Cell Cont Sig Trans Path. (B)**640. Topics in Cancer**

Pharmacology. (B) Dr. Judy Meinkoth and Dr. Wenchao Song. Prerequisite(s): permission of course directors. Class meets Wednesdays, 1:00 - 3:00; Fall semester.

Reviews of current literature on topics such as cancer cell signaling, cancer genetics, hormonal carcinogens, environmental carcinogens, chemo- and gene therapy of cancer, cancer epidemiology and prevention. New hypotheses in cancer etiology, prevention and treatment will be discussed as they appear in the literature. The aim of the course is to introduce the students to the latest development in the above areas related to cancer pharmacology.

SM 650. (BMB 650, CAMB702) Topics in Cardiovascular Pharmacology.**657. (ENVS657) HAZ WASTE HEALTH EFFECTS.****660. Frontiers in Cancer**

Pharmacology. (A) Dr. Ian A. Blair. Prerequisite(s): Permission of the course director.

This advanced course for graduate students combines didactic lectures from Penn faculty with oral presentations and oral assignments from the students. Students should have either completed PHRM 560, Principles in Cancer Signaling and Therapeutics or PHRM 640, Topics in Cancer Pharmacology or equivalent classes. The faculty will present overviews of current and emerging topics in cancer pharmacology. Emphasis of the presentations will be on the translation of basic science discoveries into therapeutic agents. Students will choose related topics to explore in more detail. In consultation with Dr. Blair, students will prepare a 45-minute presentation (using Power Point slides). Each student will give at least two presentations during the semester. The faculty teaching the course will be available for help with the presentations. The written assignment will involve a 10-page double spaced paper (exclusive of references) with a maximum of 25 references. The assignment will consist of a literature review in the area of one of the presentation topics chosen by the student. Additional information can be obtained from the Center for Cancer Pharmacology web site: <http://www.med.upenn.edu/ccp/>

699. Laboratory Rotation.**799. Independent Study. (C)****899. Pre-Dissertation Lab Rotation.****999. Research in Pharmacology. (C)**

Prerequisite(s): Permission of staff member.

Independent or collaborative research in various fields of pharmacology arranged individually with members of the staff.

PHILOSOPHY (AS) {PHIL}

335. STUDY ABROAD.

SM 343. Philosophy of Mind. (M) Staff.

SM 408. (SARS409) TRUTH & CONCEALMENT. (M)

Introductory Courses

L/R 001. Introduction to Philosophy. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Detlefsen, Singer, Weisberg. Also fulfills General Requirement in History & Tradition for Class of 2009 and prior. Freshman Seminar sections offered.

Philosophers ask difficult questions about the most basic issues in human life. Does God exist? What is real? What can we know about the world? What does it mean to have a mind? Do I have free will? What should I do? How should we live together? Do our lives have meaning? This course is an introduction to some of these questions and to the methods philosophers have developed for thinking clearly about them.

L/R 002. Ethics. (C) Society Sector. All classes. S.Meyer, Tan, Lord, M.Meyer.

Ethics is the study of right and wrong behavior. This introductory course will introduce students to major ethical theories, the possible sources of normativity, and specific ethical problems and questions. Topics may include euthanasia, abortion, animal rights, the family, sexuality, bioethics, crime and punishment and war.

L/R 003. (CLST103) History of Ancient Philosophy. (A) History & Tradition Sector. All classes. S.Meyer.

This course is an introduction to philosophy in the ancient world. While today, philosophy is considered a branch of academic inquiry, many of the ancient Greeks and Romans, however, held a radically different conception of the discipline. For them, philosophy was nothing less than an entire way of life--not just a set of doctrines or arguments, but an orientation and set of lived practices, a conscious and continual reforming of the self in light of some principle or principles. In this course, we will examine the major movements and figures of ancient philosophy. Major figures will include Socrates, Plato, Aristotle, the Stoics, the Epicureans, and the Skeptics.

L/R 004. (GSWS006) History of Modern Philosophy. (B) History & Tradition Sector. All classes. Hatfield, Detlefsen.

This course is an introduction to a few central themes in philosophy in the 17th and 18th centuries, and to some of the crucial thinkers who addressed those themes. Topics to be covered may include, among others, the nature of the human being (including the human mind), the relationship between God and the created world, the nature of freedom, and the relations among natural sciences, philosophy and theology in this rich period of human history.

005. (LGIC010, PHIL505) Formal Logic I. (C) Domotor, Weinstein. This is a Formal Reasoning course.

This course provides an introduction to some of the fundamental ideas of logic. Topics will include truth functional logic, quantificational logic, and logical decision problems.

006. (PHIL506) Formal Logic II. (B) Weinstein.

An introduction to first-order logic including the completeness, compactness, and Lowenheim-Skolem theorems, and Godel's incompleteness theorems.

007. Critical Thinking. (M) Staff.

This course will provide the student with informal techniques for identifying and analyzing arguments found in natural language. Special attention will be paid to developing the ability to assess the strength of natural language arguments, as well as statistical arguments.

L/R 008. (PPE 008) The Social Contract. (B) Society Sector. All classes. Freeman, Tan.

This is a critical survey of the history of western modern political philosophy, beginning from the Early Modern period and concluding with the 19th or 20th Century. Our study typically begins with Hobbes and ends with Mill or Rawls. The organizing theme of our investigation will be the idea of the Social Contract. We will examine different contract theories as well as criticisms and proposed alternatives to the contract idea, such as utilitarianism. Besides the above, examples of authors we will read are Locke, Rousseau, Hume, Mill and Marx.

SM 010. (PPE 210) Topics in Philosophy I. (M) Tan. .

Topics in Philosophy: Philosophy through Great Books: In this seminar we will

approach and examine different philosophical issues by reading some of the so-called "great books", including central western philosophy works by Plato, Descartes, Hobbes, and Mill as well as books like The Epic of Gilgamesh, The Bhagavad Gita, and The Analects. We read these canonical works because they are among the key and enduring works of humanity, and to learn how their authors understand and approach philosophical and practical problems that continue to confront us. Topics to be discussed include the idea of justice, what is the good life, the possibility and basis of knowledge, nature vs society, social obligations, and morality and conflict.

015. Logic and Formal Reasoning. (B) Domotor.

This course offers an introduction to three major types of formal reasoning: deductive, inductive (probabilistic and statistical), and practical (decision-making). The course will begin with the study of classical sentential and predicate logics. It will move on to elementary probability theory, contemporary statistics, decision theory and game theory.

SM 024. Philosophy of Biology. Staff.

Why was Darwin's theory of evolution revolutionary? What actually evolves: genes, individuals or groups? What factors other than natural selection determine evolution and how important are they? To what extent do genes affect our behavior? Does the race have a biological basis? What is biodiversity and why should we care about it? In this course we will examine these questions from a philosophical point of view. This course will have two parts. In the first part we will examine the foundations of evolutionary theory, starting off with Darwin's own formulation. We will then look at external and internal criticisms of evolutionary theory. Topics will include creationism and intelligent design, adaptationism, and the units of selection debate. In the second part of the course we will apply this knowledge to contemporary ethical issues. We will focus on biological theories of race and gender and examine their criticisms. We will also discuss the possibility of grounding ethics in evolutionary theory, the emergence of ecosystem ecology and the concept of biodiversity and its role in environmental policy. Please note that no previous knowledge of philosophy or biology is required to attend this course.

L/R 025. Philosophy of Science. (C)

Natural Science & Mathematics Sector.
Class of 2010 and beyond.
Weisberg, Spencer.

What counts as a scientific theory? What counts as evidence for a scientific theory? Are scientific inferences justified? Does science give us truths or approximate truths about a world that exists independently of us? How can we know? Does it matter? These are all perennial questions in the philosophy of science, and the goal of this course is to look at how philosophers have answered these questions since the scientific revolution. In addition to reading classic work by philosophers of science, we will read material from living and dead scientists in order to gain a deeper appreciation of the philosophical questions that have troubled the most brilliant scientists in Western science.

026. (STSC026) Philosophy of Space and Time. (A)

Natural Science & Mathematics Sector. Class of 2010 and beyond. Domotor.

This course provides an introduction to the philosophy and intellectual history of space-time and cosmological models from ancient to modern times with special emphasis on paradigm shifts, leading to Einstein's theories of special and general relativity and cosmology. Other topics include Big Bang, black holes stellar structure, the metaphysics of substance, particles, fields, and superstrings, unification and grand unification of modern physical theories. No philosophy of physics background is presupposed.

SM 028. (GSWS028) Introduction to Feminist Philosophy. (M)

M. Meyer.
Offered through the College of General Studies.

Feminist theory grows out of women's experience. In this course we will investigate how some contemporary feminist thinkers' consideration of women's experience has caused them to criticize society and philosophy. Traditional philosophical areas addressed may include ethics, social and political philosophy, aesthetics, philosophy of religion, and epistemology.

SM 029. Philosophy of Sport. (M)

M. Meyer.

This is an introductory philosophy course that uses philosophical tools to understand and answer questions that arise in and about sports. The central question to be answered is what constitutes cheating in sports, especially by methods that enhance athletic performance. Other topics may include the nature of competition in sport,

the appropriate competitors in sporting events, and the ethics of team loyalty.

SM 032. Topics in Contemporary Philosophy. (M)

Varying instructors.

Transhumanists seek to extend the capacities of the human mind beyond the bounds of the human brain and body through technology. Indeed, for them, such an extension of human thinking and feeling represents the next big step in human cognitive evolution. In this course, we will examine the philosophical conception of a mind that underpins this movement to extend the human mind beyond human biology. Through an examination of the hypothesis that there can be non-biological thinking and feeling, we consider whether technologies that enable or enhance human mental faculties might one day completely supplant the biological machinery of the human body. We will also consider the moral issues surrounding the creation of transhumans. The questions that we consider in this course will get to the heart of what it means to possess a human mind and indeed to be a human being.

L/R 034. (RELS011) Philosophy of Religion. (M)

Steinberg.
An introductory philosophical examination of questions regarding the nature of religious experiences and beliefs; arguments for and against the existence of God; the problem of evil; the relationships of faith, reason and science, the possibility of religious knowledge, the role of religious communities, etc. Readings from the history of philosophy, 20th century and contemporary analytic philosophy, and the European phenomenological, existential, and hermeneutic traditions.

L/R 044. (CIS 140, COGS001, LING105, PSYC107) Introduction to Cognitive Science. (A)

Kearns, Liberman, Weinstein, Hatfield. Formal Reasoning Course. All Classes.

Scope and limits of computer representation of knowledge, belief and perception, and the nature of cognitive processes from a computational perspective.

SM 045. Animal Minds. (M)

Staff.
In this course, we will examine philosophical issues in nonhuman animal cognition. We will consider questions such as the following: Do nonhuman animals use concepts? How do we assess different interpretations of their behaviour? What is the role of anthropomorphism in thinking about nonhuman animal cognition? How are intelligence and sociality related?

L/R 050. (RELS155, RELS455, SAST150, SAST152) Introduction to Indian Philosophy. (M)

History & Tradition Sector. All classes. Staff.

This course will take the student through the major topics of Indian philosophy by first introducing the fundamental concepts and terms that are necessary for a deeper understanding of themes that pervade the philosophical literature of India -- arguments for and against the existence of God, for example, the ontological status of external objects, the means of valid knowledge, standards of proof, the discourse on the aims of life. The readings will emphasize classical Hindu, Buddhist, and Jain philosophical articulations (from 700 B.C. to 16th century CE) but we will also supplement our study of these materials with contemporary or relatively recent philosophical writings in modern India.

054. Contemporary Continental Philosophy. (M)

Staff.

An introduction to 20th century continental European philosophy, focusing on the origins and development of phenomenology and existentialism and their influence on contemporary thought. The course will include an introduction to the phenomenology of Edmund Husserl and examine the subsequent development of modern philosophic existentialism by critics of Husserl, such as Martin Heidegger, Jean-Paul Sartre or Maurice Merleau-Ponty. Finally, the important influence of phenomenology and existentialism on contemporary trends in French, German, and American philosophy will be explored, including hermeneutics, deconstruction, post-modernism, and post-analytic philosophy. No previous study of philosophy is required.

L/R 055. Existentialism. (M)

Staff.

This course treats "existentialism" as an historical, philosophical, and literary phenomenon. In addition to close readings of philosophical texts by Nietzsche, Kierkegaard, Heidegger, Sartre, Simone de Beauvoir, and Camus, we will read literary works by Dostoyevsky, Ibsen, Kafka, Beckett, Knut Hamsun, and Richard Wright. There will also be semi-regular film screenings. Topics include death, anxiety, resentment, and will-to-power, authenticity, faith, the absurd, racism and sexism, sources of art and morality, and the nature of human existence.

067. (GRMN248) 19th Century Philosophy. (M)

Jarosinski.

"God is dead." this famous, all too famous death sentence, issued by the 19th-century

German philosopher Friedrich Nietzsche, also signaled the genesis of a radical challenge to traditional notions of morality, cultural life, and the structure of society as a whole. In this course we will examine both the "modernity" of Nietzsche's thought and the ways in which his ideas have helped to define the very concept of Modernity (and, arguable, Postmodernity) itself. In exploring the origin and evolution of Nietzsche's key concepts, we will trace the ways in which his work has been variously revered or refuted, championed or co-opted, for more than a century. We will survey his broad influence on everything from philosophy and literature to music and art, theater and psychology, history and cultural theory, politics and popular culture. Further, we will ask how his ideas continue to challenge us today, though perhaps in unexpected ways. As we will see, Nietzsche wanted to teach us "how to philosophize with a hammer."

L/R 072. (HSOC101, PPE 072) Biomedical Ethics. (M) Society Sector. All classes. Gibbons.

This course is an introduction to bioethics, focusing on ethical questions arising at the beginning and end of life. Topics will include procreative responsibilities, the question of wrongful life, and prenatal moral status as well as questions of justice related to markets for sperm, eggs and gestation. We will also attend to dilemmas at the end of life, including the authority of advance directives, euthanasia and the allocation of life-saving therapies.

SM 073. (ENVS073, PPE 073) Topics in Ethics. (M) Gibbons, M.Meyer.

This course examines some of the central theoretical and applied questions of ethics. For example, what is the good life? By what measure or principles do we evaluate the rightness and wrongness of actions? How does ethical reasoning help us understand and address real world problems such as world hunger, social injustice, sex and race discrimination, allocation of scarce resources and the like. The course can be organized around an applied topic or practical issue such as global ethics, just war, biomedical ethics or environmental ethics.

SM 074. Business Ethics. (M) Staff.

In this course we will begin by examining practical ethical dilemmas facing businesses. Since usually people, not businesses, face ethical quandaries, we will consider how a business can face an ethical dilemma at all. Maybe it doesn't even make sense to attribute responsibilities, liabilities, or agency to corporations. If

businesses do indeed have moral responsibilities, perhaps that means that employees have corresponding rights against their employers. With a better understanding of how the ethical world intersects with the business world, we can thoughtfully discuss the place of the corporation in society.

L/R 076. Political Philosophy. (M) Freeman.

An introduction to some central issues in social and political philosophy: liberty, equality, property, authority, distributive justice. Readings from Hobbes, Locke, Mill, Marx, Rawls, Nozick.

L/R 077. Philosophy of Law. (M)

Society Sector. All classes. Freeman, Guerrero, Tan.

This course is an introduction to the Philosophy of law. The central question of the course is this: why have law? Answering that question requires engaging with another question: what is law? We will approach those two questions in a variety of ways throughout the semester. In the first section of the course, we will begin by discussing one important feature of law: its close connection to coercion and punishment. Many have argued that the close relationship between law and coercion creates a demand for justification: what can or does justify law, given that law involves coercion? We will explore answers to that question. We will also consider a more general question: what good is law? (if we didn't have law, why might we want it?) The second section of the course engages with these same issues but in more concrete settings: the areas of criminal law and property law. We will consider what, if anything, is distinctive about those two areas of law, and we will consider whether the purported purpose(s) of law in general that we discuss in the first section make more or less sense when we consider these two specific areas of law. We will also consider distinctive aspects of the sources of law in these two areas of law: democratically enacted statutes, in the case of criminal law; and judge-made common law, in the case of property law.

The third and final section of the course will consider an unusual and particularly significant kind of law: constitutional law. We will consider the purpose(s) of constitutions, how constitutionalism relates to democracy, and how constitutions ought to be understood and interpreted, in light of our answers to these first two questions. Throughout the course, we will engage with both classic and contemporary work, reading work by Michelle Alexander, Jeremy Bentham,

Angela Davis, Ronald Dworkin, John Hart Ely, H.L.A. Hart, Thomas Hobbes, John Locke, John Stuart Mill, Robert Nozick, Martha Nussbaum, Richard Posner, Jeremy Waldron, and others.

SM 079. Environmental Ethics. (M) Kovaka.

In this course we will investigate some of the ethical issues that arise from our relationship with the environment. We will examine important issues in environmental ethics, supplementing our discussions by considering how the latest scientific results affect environmental thinking and policy. Topics covered will include (but not be limited to): What are our responsibilities toward the environment, as individuals and as members of institutions? How do our responsibilities toward the environment relate to other ethical considerations? Do non-human animals/species/ecosystems have intrinsic value? What should conservationists conserve (Conservation vs restoration, keystone species vs ecosystems)?

L/R 080. Aesthetics. (M) Arts & Letters Sector. All Classes. Staff.

This course examines philosophical issues centering on the nature and value of the arts. Some questions we'll consider are: What is art? What does it mean to have an aesthetic experience? How are aesthetic experiences different from non-aesthetic ones? What is the relation between art and truth? How do the moral qualities in a work of art affect its aesthetic qualities? Why are emotions important in our interpretations of artworks? What is the relation between art and expression? Do forgeries necessarily have less aesthetic value than original artworks? What are aesthetic judgments, and are they merely expressions of taste? Lecture and discussion will center on both classical and contemporary works in aesthetics.

155. Continental Philosophy. (M) Staff.

In this course we read various texts in the Enlightenment tradition and more recent ones critical of modern distortions of this tradition. We shall begin briefly with Kant and Marx, two exemplars of this tradition, and then we shall study in some detail the views of the Frankfurt School (especially the writing of Horkheimer and Adorno), Foucault, and Derrida. Background readings from Nietzsche and Saussure shall also be assigned to place the material from Foucault and Derrida in its proper context.

Intermediate Courses

SM 202. Topics in Ethics I. McAninch.

As an account of the standard of right conduct, consequentialism is sometimes said to be the view that the rightness of an act is determined entirely by the value of its consequences. Since the 1970s, consequentialism and its most widely-endorsed version, utilitarianism, have been the subjects of a number of influential critiques. Philosophers have contended that consequentialism cannot account for the distinctive values of justice and fairness, for the significance of character, for the agent-relativity of some moral demands, and for the action-guiding function that moral theories are thought to possess. These critiques recommend a close study of the alternative, deontological ethical framework from which many of these critiques originate a framework contending that the right is prior to the good, in John Rawls words. But these critiques have also prompted spirited responses from consequentialists and sophisticated modifications to their theories; these responses are also worth exploring. The focus of this course is to consider and assess some of the important strands in this debate, including the suggestion that neither moral framework adequately captures human concerns about morality and value.

We will begin by looking at some of the historical antecedents to the contemporary debate, starting with work by Bentham, Mill, and Sidgwick. We will then move forward to the contemporary debate, reading important critiques by John Rawls, Bernard Williams, Thomas Nagel, Philippa Foot and others, as well as responses by Peter Railton, Samuel Scheffler, and others. Finally, we will look at recent work by Susan Wolf that provides an alternative perspective on morality, value, and meaningfulness.

The readings in this class are challenging, but we will approach them carefully and collaboratively.

SM 203. (OIDD325) Thinking with Models. (M) Weisberg.

When a flu pandemic strikes, who should get vaccinated first? What's our best strategy for minimizing the damage of global climate change? Why is Philadelphia racially segregated? Why do most sexually reproducing species have two sexes, in roughly even proportions? These and many other scientific and practical problems required us to get a handle on complex systems. And an important part of deepening our understanding and sharpening our intuitions

requires us to think with models. Students in this laboratory-based course will learn about the varied practices of modeling, and will learn how to construct, analyze, and validate models.

L/R 205. What is Meaning?. (M) Staff.

This course will survey several central topics in philosophy of mind and language, as well as investigate how these areas of philosophy interact with the scientific study of the mind. Among the questions we'll be asking are: What is it to have a mind? What is consciousness? What is it to think, to perceive, to act, to communicate, to feel emotions? What is the relationship between the mind and the brain? Can there be a science of the mind? Of language? What can it tell us? What can philosophy contribute to cognitive science?

SM 209. Introduction to Plato. (M) S.Meyer.

This course involves a close reading of the most important dialogues written by Plato, one of the greatest philosophers of all time. We will examine a wide range of topics in metaphysics, epistemology, and ethics: What is the nature of the soul? Is there an afterlife? What are the fundamental entities in the world? What are Plato's "forms"? What is knowledge and what can be known? Are we born as a blank slate or is something innate in us? What is the good life? What is the best way for us to live our lives? We will see how Plato attempts to answer these questions in his early, middle, and late dialogues, and we will ask whether and how exactly he is self-critical and changes his views over time.

210. (CLST210) Introduction to Aristotle. (M) S.Meyer.

Aristotle (384-323 BCE) was one of the most important philosophers in Classical Greece, and his legacy had unparalleled influence on the development of the Western philosophical thought through the medieval period. We will study a selection of his works in natural philosophy, metaphysics, epistemology, psychology, ethics and politics. All texts will be read in English translation. No background in Greek philosophy or knowledge of Greek is required.

SM 211. (CLST211) Ancient Moral Philosophy. (M) Society Sector. All classes. S.Meyer.

The Nicomachean Ethics is considered to be Aristotle's major ethical work, and it is still counted among the most influential ethical texts altogether. This course will focus on Aristotle's Nicomachean Ethics with a special emphasis on questions that

are systematically relevant for problems discussed in contemporary approaches to virtue ethics. These questions concern, for example, the Aristotelian conception of virtue, the scope and nature of practical wisdom, and the relationship between virtue and justice.

SM 220. (MATH220) Proof in Mathematics, Philosophy and Law. (M) Weinstein. Prerequisite(s): MATH 103 or PHIL 005.

Proofs are vital to many parts of life. They arise typically in formal logic, mathematics, the testing of medication, and convincing a jury. How do you prove that the earth is essentially a sphere (in particular, not flat)? In reality, proofs arise anywhere one attempts to convince others. However, the nature of what constitutes a proof varies wildly depending on the situation -- and on whom you are attempting to convince. Convincing your math teacher or a judge is entirely different from convincing your mother or a jury. The course will present diverse views of Proof. On occasion there may be guest lecturers.

SM 221. Philosophy East and West. (M) Staff.

This course is an introduction to philosophy through a comparative examination of texts from ancient Indian and Greek philosophical traditions. These traditions share fundamental, metaphysical beliefs about the nature of the universe and of the self, but we can also observe substantial differences in their treatments of the problems of philosophy as well as the solutions they offer to these. We will thus read primary sources in both traditions with an eye to the similarities and the differences at play between them. Our readings will cover questions of cosmology (How did the universe come into being?), metaphysics (What exists?), epistemology (What is knowledge?), and ethics (What is the good life? What is the right thing to do?).

Among some representative pairings: the Rig Veda and Hesiod's Theogony (cosmogony); the fragments of Parmenides and the Katha Upanishad (metaphysics); Outlines of Pyrrhonism and the Madhyamaka (epistemology); Aristotle's Categories and the Vaisheshika Sutra (ontology); the Dhammacakkapavattana Sutta and Stoic ethical fragments (ethics).

All readings will be in English translation. Assessment will be in the form of weekly responses, participation, and one term paper.

SM 223. (ARTH667, VLST223) Philosophy and Visual Perception. Hatfield, Connolly.

The course starts with a discussion of theories of visual perception and their relation to philosophy. We survey the history of visual theories from Euclid to Marr and Rick, with stops to include Ibn Al-Haytham, Descartes, Berkeley, Helmholtz, and Gibson. We then consider selected philosophical topics, such as the nature of object perception, or the representational relation between images and things imaged (e.g., between pictures and what they represent).

SM 225. (STSC108) Introduction to Philosophy of Science. (C) Domotor.

A discussion of some philosophical questions that naturally arise in scientific research. Issues to be covered include: The nature of scientific explanation, the relation of theories to evidence, and the development of science (e.g., does science progress? Are earlier theories refuted or refined?).

L/R 226. (PHIL521, PPE 225, PPE 421) Philosophy of Biology. (M) Natural Science & Mathematics Sector. Class of 2010 and beyond. Domotor, Spencer, Weisberg.

This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin's formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theory: Richard Dawkins' and Richard Lewontin's. The remainder of the course will deal with a number of foundational issues including adaptation, the units of selection, the evolution of altruism, and the possibility of grounding ethics in evolutionary theory.

SM 227. Conceptions of the Self. (M) Staff.

Investigation of such topics as the unity of consciousness and personal identity. Some attention will be given to the relations between conceptions of the self and conceptions of morality.

L/R 228. (PPE 204) Philosophy of Social Science. (M) Weisberg, Bicchieri. Prerequisite(s): PPE 008, ECON 001, ECON 002, PSCI 182, PPE 153, PPE 201.

This course is about the foundations of contemporary social science. It focuses on the nature of social systems, the similarities and differences between social and natural sciences, the construction, analysis, and confirmation of social theories, and the

nature of social explanations. Specific topics may include: What are social norms and conventions? What does it mean to have one gender rather than another, or one sexual orientation rather than another? Should social systems be studied quantitatively or qualitatively?

L/R 231. Epistemology. (M) Singer.

Two basic assumptions of academic research are that there are truths and we can know them. Epistemology is the study how knowledge, what it is, how it is produced, and how we can have it. Metaphysics, the study of the basic constituents of reality, the study of being as such. In this introduction to metaphysics and epistemology, we will ask hard questions about the nature of reality and knowledge. No philosophy background is required for this course.

233. (PPE 233) Philosophy of Economics. (M) Staff.

In this course, general philosophy of science issues are applied to economics, and some problems specific to economics are tackled. While analytical questions like "What is economics?" or "What is an economic explanation" must be pursued, the ultimate goal is practical: What is good economics? How can economists contribute to a better understanding of society, and a better society? How can we make economics better? Topics to be discussed include the following: specific object and method of economics as a social science; its relation with other disciplines (physics, psychology and evolutionary theory); values in economics (welfare, freedom, equality and neutrality); the role of understanding and possible limits of a quantitative approach to human behavior (purposefulness, freedom, creativity, innovation); prediction, unpredictability and the pretension of prediction; causation in econometrics and in economic theory (equilibrium); selfishness and utility maximization (cognitive and behaviorist interpretations); economic models and unrealistic assumptions (realism and instrumentalism); empirical basis of economics (observation and experiment); microeconomics and macroeconomics (reductionism and autonomy); pluralism in economics (mainstream economics and heterodox schools).

SM 234. (RELS204) Philosophy of Religion. (M) Staff.

This course will focus on arguments for and against the existence of God. It will begin by examining the ontological, cosmological, and design arguments for the existence of God. Included will be a

discussion of purported evidence for the existence of God from modern biology and cosmology. It will then examine arguments against the existence of God based on human and animal suffering, followed by arguments against the existence of God arising from the scarcity of credible miracle claims.

SM 242. Freedom of the Will. (M) Staff.

A discussion of various challenges to our self-understanding that arise from thinking about persons and their actions as part of the order of nature. Questions to be considered include: what it is to be a free agent and what it means to have a free will, the degree to which our beliefs about physical causality undermine our beliefs about agency, the nature and importance of moral responsibility, and the relationship between freedom and responsibility. Readings are drawn from both historical and contemporary sources.

SM 243. Topics In Metaphysics. (M) Domotor. Prerequisite(s): PHIL 001 or PHIL 003 or PHIL 004, or permission of instructor.

In this class we employ science fiction thought experiments as a means of reflecting on questions like: What is reality? What is the nature of the self and mind? Might you be in a computer simulation (e.g., as in *The Matrix*)? Is time travel possible? Can your mind survive the death of your brain by uploading? Is time real or is it merely an illusion?

L/R 244. (PPE 244, VLST221) Introduction to Philosophy of Mind. (C) Domotor, Miracchi.

This course will survey several central topics in philosophy of mind, as well as investigating how philosophy of the mind interacts with scientific study of the mind. Among the questions we'll be asking are: What is it to have a mind? What is the relationship between the mind and the brain? Can there be a science of the mind? What can it tell us? What can philosophy contribute to a science of the mind? What is consciousness? What is it to think, to perceive, to act? How are perception, thought, and action related to one another?

SM 245. Philosophy & Science Fiction. Staff.

In this class we employ science fiction thought experiments as a means of reflecting on questions like: What is reality? What is the nature of the self and mind? Might you be in a computer simulation (e.g., as in *The Matrix*)? Is time travel possible? Can your mind survive the

death of your brain by uploading? Is time real or is it merely an illusion?

247. (COML247, GRMN247) Marx. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Jarosinski.

Precious few, if any, communist states exist today as Karl Marx would have imagined them. Indeed, almost every part of the 19th-century culture Marx put under his philosophical microscope has in one way or another vanished or been radically transformed: the state, the school, even sex have been fundamentally altered during a long 20th century filled with revolutions of culture. This class asks: is there a future for a philosopher whose political projects seem so precarious--if they have not failed outright--in the face of global capitalism? We will try to answer this question by examining the origins and the implications of Marx's writings, but also his complex legacy, from Lenin through Guevara to Foucault and Zizek. The course will conclude with a consideration of the role of the radical in today's global politics and cultural sphere.

L/R 249. (EDUC576, GSWS249) Philosophy of Education. (M) Detlefsen.

The philosophy of education asks questions about the foundational assumptions of our formal institutions for the reproduction of culture. It ranges therefore, from epistemology and philosophy of mind to ethics and political philosophy. For instance: What is the nature of learning and teaching? How is it possible to come to know something we did not know already--and how can we aid others in doing that? How, if at all, should formal institutions of education be concerned with shaping students' moral and civic character? What is the proper relation between educational institutions and the state? We also ask questions more specific to our own time and context. For example: how, in a multicultural state, should we educate students of varied social identities, like race, gender, and religion? What is the relationship between education and justice.

SM 252. (AFRC254, AFRC552, PHIL552) African American Philosophy. (B) Allen-Castellitto.

A new field has slowly begun to emerge within the traditional discipline of academic philosophy: African-American Philosophy. "African American Philosophy" refers here to conceptually and analytically rigorous philosophical studies of topics closely related to the social, legal, economic, historical, and cultural experiences of US peoples of African

descent. The field has appeared in tandem with a striking increase in the number of professionally trained philosophers of African descent holding the Ph.D. in philosophy, and employed as full-time teachers and scholars. A recent estimate puts the number of philosophers of African descent working in the US at about one hundred; and about twenty of these are African-American women. A significant body of scholarship now describes, explains, critiques, and evaluates African American culture, slavery, oppression, discrimination, integration, segregation, equality, gender politics, labor, families, health, mental health, and the significance of race to identity, morality, ethics, politics, democracy, public policy, law, science, technology, the humanities and the arts. This unique lecture course will be a thematic introduction to African American Philosophy since 1960. Weekly topics will be chosen from among these clusters: Slavery, Colonialism, Oppression and Freedom;

Segregation, Integration and Equality; Gender, Sex and Sexualities; Reproductive Rights and Responsibilities; Religion and Spiritualism; Rebellion, Protest, Social Movements and Citizenship; Economic Welfare, Labor and Inequality; Violence, Crime and Punishment; Education, Affirmative Action and Diversity; Reparations and Forgiveness; Identities and Stereotypes; Nature, Science and Health; Psychology, Psychiatry and Mental Health; Pragmatism; Existentialism; and the Sociology of Philosophy. We will read works by Cornell West, Adrian Piper, Charles Mills, Lewis Gordon, Anita Allen, Anthony Appiah, Lucius Outlaw, Naomi Zack, Lawrence Thomas, Bill Lawson, Michele Moody Adams and others. For most undergraduate students, evaluation in the course will be based on a mid-term and final exam with essay and objective components. Advanced students and graduate students enrolled in the course will have an opportunity to write a substantial supervised paper on a topic of their own choosing in lieu of the exams.

SM 255. (GRMN255) Topics in Continental Philosophy. (M) Staff.

Martin Heidegger is counted among the most controversial thinkers of the 20th century. He is best known, however, for his early book "Being and Time". This unfinished project was supposed to be completed by several works on major figures of western philosophy, one of which is Kant. In fact, only shortly after Being and Time, Heidegger published his first book on Kant: Kant and the Problem of Metaphysics. With this book

Heidegger's so called metaphysical phase (which lasted at least until the mid 1930's) was initiated. In this course, we will read and discuss not only large parts of Being and Time but also a selection of these later works that are primarily concerned with the nature and object of Metaphysics.

SM 267. Kant and the 19th Century. (M) Staff. Prerequisite(s): PHIL 004.

After an orientation to Kant's philosophy, we will examine Hegel, Feuerbach, Marx, and Nietzsche.

SM 271. (PPE 271) Global Justice. (M) Tan.

This course is an introduction to some of the central problems in global justice. Samples of these topics include: What are our duties to respond to world poverty and what is the basis of this duty? Is global inequality in itself a matter of justice? How universal are human rights? Should human rights defer to cultural claims at all? Is there a right to intervene in another country to protect human rights there? Indeed can intervention to protect human rights ever be a duty? Who is responsible for the environment? We will read some influential contemporary essays by philosophers on these topics with the goal of using the ideas in these papers as a springboard for our own further discussion and analysis.

SM 272. (PPE 272) Ethics & the Professions. (M) Tan. Prerequisite(s): At least one of: PHIL 002, PHIL 009, PHIL 008 or equivalent.

Since Louise Brown, the first so-called "test tube baby" was born in 1978, reproductive technologies have generated many new ways to "make" babies. These technologies mean that a number of difficult ethical questions are inescapable, not only for individuals who otherwise couldn't have children (due to biological and/or social constraints) but for the larger society.

This course will consider the prenatal moral status and identity of the fetus. It explores prenatal (and pre-implantation) genetic interventions and their possible effects on the autonomy of the child later in life as well as the possible eugenic implications of such interventions. It examines the potential conflict between a mother's autonomy and an infant's prenatal harm in the larger context created by new kinds of parents and new forms of kinship. Finally, it investigates the market for sperm, eggs, embryos and gestation and reflects on the questions of justice they imply.

SM 273. (LGST225, PHIL473) Ethics in the Profession. (M) Staff.

This introductory course considers the ethical issues and challenges that arise in the professions. Topics may include Legal Ethics, Business Ethics, Medical Ethics, and Political Ethics. No prior background in Philosophy or Ethics is presupposed.

L/R 277. (PPE 277) Justice, Law and Morality. (M) Freeman, Allen.

The course will focus on the philosophical background to the individual rights protected by the U.S. Constitution, including 1st Amendment freedoms of religion, expression, and association; the 14th amendment guarantee of Due Process and the rights of privacy, abortion, assisted suicide, and marriage; the Equal Protection clause and equal political rights and the legitimacy of affirmative action; and the Takings and Contract clauses and their bearing on rights of private property and economic freedoms. In addition to Supreme Court decisions on these issues, we will read works by political philosophers and constitutional theorists, including J.S. Mill, Ronald Dworkin, Cass Sunstein, Martha Nussbaum, Katherine MacKinnon and others.

279. Contemporary Political Philosophy. (M) Hussain, Tan.

This course will examine contemporary theories of justice, including libertarianism, liberalism, contemporary Marxism and feminism. Examples of topics we will examine are distributive justice, liberty, human rights, republicanism, and global justice. Philosophers we will read include John Rawls, Ronald Dworkin, Robert Nozick, Michael Walzer, Martha Nussbaum, Susan Moller Okin, and G.A. Cohen.

SM 280. (DTCH330, DTCH509, GRMN280, GRMN330) Topics in Aesthetics. (M) Gibbons.

What is beauty? What is the relationship between beauty and goodness? What does aesthetic judgment tell us, if anything, about the world? This course addresses these and other questions by focusing predominantly on Kant's highly influential aesthetic theory. It situates this text in the context of other works on aesthetics. We begin with Plato's view expressed in *The Symposium* that beauty is a form to which humans gain (some) access through love. We then turn to essays by Shaftesbury and Hume that introduce key aesthetic notions that Kant will elaborate (and revise) -- including those of taste, common sense, harmony, and aesthetic disinterest. We also read selections from the work of Friedrich

Schiller, John Dewey, and A. K. Coomaraswamy who offer alternative accounts of the relationship between beauty and ethical life -- a relationship that Kant acknowledges but considers to be importantly limited. The question of the relationship between ethics and aesthetics will form the backdrop for this semester's reading overall.

SM 291. Philosophy of Race. (M) Spencer.

Historically, philosophical questions about race have been about the nature and reality of race, the nature of racism, and social or political questions related to race or racism. In fitting with that history, the first part of the course will focus on the nature and reality of race, as understood in biology and as understood by ordinary people. We will begin by looking at biological race theories from Francois Bernier in 1684 to Pigliucci and Kaplan in 2003. Next, we will look at the philosophical work that has been done on the nature and reality of race as ordinarily understood in the contemporary United States. We will discuss racial anti-realism, social constructionism about race, and biological racial realism from well-known philosophers of race like Anthony Appiah, Sally Haslanger, and Joshua Glasgow. The second part of the course will focus on the nature of racism and social or political questions related to race or racism. In our discussion of racism, we will cover intrinsic v. extrinsic racism, the volitional account of racism, institutional racism, and implicit racism. In our discussion of social or political issues related to race or racism, we will address the issue of whether race-based preferential treatment in college admissions is an instance of racism.

SM 294. (ENGL394) The Human Animal. (M) Staff.

To ask "what is an animal?" entails wondering about what is being human. We have become increasingly aware that animals are not to be relegated to the category of pure otherness, can be disposed off and slaughtered at will, and that they may even have some rights. Taking a philosophical point of departure with Derrida (*The Animal that therefore I am*) and Agamben (*The Open: Man and Animal*), we will explore a literary corpus (with Aesop, Cervantes, Poe, Soseki, Ted Hughes, Marianne Moore, Kafka, J.M. Coetzee) as well as a few films, (*The Fly*, *Grizzly Man*) so as to question our usual assumptions about the limits separating humanity from animality.

299. Independent Study. (C) Staff.

Student arranges with a faculty member to pursue a program of reading and writing on a suitable topic.

SM 300. Research Methods. Staff.

An intensive research seminar for undergraduates, aimed at developing philosophical skills in the context of a supportive student community. Students will learn to present, discuss, and write philosophy, drawing on canonical texts in a range of philosophical areas and methods, along with readings which they identify in the course of articulating their own philosophical interests. The course may be taken alone or as part of a two-semester sequence, and with or without a stand-alone honors thesis. In addition to philosophy majors, the course is also suitable for less advanced students or majors in related fields who want to sharpen their analytic skills. Admission is by application only. Students should have demonstrated philosophical interest and ability, whether through past enrollment in upper-division philosophy courses or through other means; and should submit a transcript, the names of 1-2 supporting faculty, and a brief statement (300 words) describing how they expect the course to contribute to their philosophical and intellectual development, to Professor Karen Detlefsen (detlefse@sas.upenn.edu) by November 2, 2012.

301. Directed Honors Research. (C)

Open only to senior majors in philosophy. Student arranges with a faculty member to do an honors thesis on a suitable topic.

SM 325. Topics in Philosophy of Science. (C) Weisberg. Department Majors Only.

Topics will vary.

SM 330. (VLST222) Philosophy of Perception. (M) Hatfield. Department Majors Only.

Taking our perceptual experience as a given, what causes it? In a realistic mood, we accept that objects in the environment, or in the "external world," cause us to have the perceptual experiences that we do (as of a table with food, or as of a garden with flowers in it). Yet on this realistic view, our perception is the result of a causal chain that leads from object to eye to brain to experiences, and we are only given the last element: the experience. So how do we really know how our experiences are caused, and where do we get the idea that they are caused by an external world of physical objects? The seminar will focus on the problem of the external world as

examined by David Hume, Thomas Reid, G. E. Moore, and Bertrand Russell, along with recent authors.

SM 331. Epistemology. (M) Staff. Department Majors Only.

A seminar for philosophy majors on some main problems of contemporary epistemology, with readings on justification, contextualism, non-conceptual content, normativity of rationality, and related topics. Student presentations are required as are regular attendance and active participation. There are brief written assignments on the readings and a final term paper on a topic approved by the instructor.

SM 342. Topics in Metaphysics. (M) Weisberg. Department Majors Only.

Various topics in Metaphysics.

SM 344. Wittgenstein: Mind and Language. (C) Staff. Department Majors Only.

In this class, we will engage in a close reading of Wittgenstein's major writings: the *Tractatus Logico-Philosophicus* and the *Philosophical Investigations*. Some of the main topics to be considered include: how language relates to the world; what philosophy is and what it can accomplish; the nature of understanding; what is involved in following a rule; and the phenomenon of seeing-as.

A distinctive feature of Wittgenstein's approach to philosophy is his commitment to philosophy as an activity rather than a set of doctrines. In keeping with this, the main goal of this class is for you to learn to do philosophy: to read closely, to grapple with foundational questions, and to talk seriously with others. This class is very much a seminar, and I will avoid lecturing as much as possible.

SM 359. (PPE 475) Topics in Theoretical Philosophy. Spencer. Department Majors Only.

This is an undergraduate research seminar covering interdisciplinary research in psychology, philosophy, sociology and behavioral economics related to social norms. Social norms are informal institutions that regulate social life. We will devote particular attention to the following questions: 1. What is a good, operational definition of social norms? 2. Is there a difference between social and moral norms? 3. How can we measure whether a norm exists, and the conditions under which individuals are likely to comply with it? 4. Are behavioral experiments a good tool to answer question 3? 5. How do norms emerge? 6. How are

norms abandoned? 7. What is the role of trendsetters in norm dynamics?

SM 361. Ancient Philosophical Figures. (M) Kahn, S.Meyer. Prerequisite(s): PHIL 003. Department Majors Only.

A study of selected topics, texts, and figures from classical Greek philosophy.

SM 362. (PHIL565) Modern Philosophical Figures. (M) Hatfield, Detlefsen. Department Majors Only.

Various topics in 17th-18th century philosophy.

SM 367. Kant and Hegel. (M) Staff. Department Majors Only.

We will examine the main theses of Kant's theoretical and practical philosophy and the role of Hegel's criticisms in them in the development of the latter's system of philosophy. Subjects will include Kant's theory of space, time, substance, and causation; his transcendental idealism; and his analysis of the fundamental principles of morality and his defense of freedom of the will. We will then examine Hegel's attempt to overcome the dichotomies of Kant's theoretical philosophy in his objective idealism and his criticism of the formalism of Kant's practical philosophy.

SM 368. Topics in German Idealism. (M) Horstmann. Department Majors Only.

The course will start with a brief review of some features of Kant's philosophy, will focus on Fichte and Schelling, and will end with a discussion of the reaction to Idealism by Schopenhauer and Nietzsche.

SM 372. Topics in Ethics. (M) Freeman. Prerequisite(s): PHIL 002 (or consent of the instructor). Department Majors Only.

This is a special course on topics in ethics. The content of the course will vary from semester to semester, but will focus on issues in applied ethics. Because of the interdisciplinary nature of the topics, readings may come from philosophy as well as other fields including sociology, public health, biology, and complex systems research. PHILOSOPHY MAJORS ONLY.

SM 376. Justice. (M) Freeman. Department Majors Only.

The course will focus on contemporary works on liberalism, democracy, capitalism, and distributive justice. Among the questions to be discussed: Which rights and liberties are fundamental in a constitutional democracy? What is equality and what requirements does it impose? Are economic rights of property and freedom of

contract equally important as personal liberties of speech, religion, and association? Does capitalism realize a just distribution of income and wealth? What is socialism and is it potentially just, or necessarily unjust? Readings from works by John Rawls, Robert Nozick, Milton Friedman, and others.

SM 377. (PPE 377) Philosophy and the Constitution. (C) Freeman. For Philosophy and Philosophy, Politics, and Economics Majors (PPE) Only.

The aim of this course is to investigate the philosophical background of our constitutional democracy. What is the appropriate role and limits of majority legislative rule? How are we to understand First Amendment protections of freedom of religion, speech, and assembly? What is the conception of equality that underlies the 14th Amendment's Equal Protection Clause? Is there a right of privacy implicit in the Constitution? Do rights of property deserve the same degree of protection as other constitutional rights? To investigate these and other constitutional issues, we will read from both Supreme Court opinions and relevant philosophical texts.

SM 379. Topics in Political Philosophy. (M) Freeman, Tan. Department Majors Only.

Various topics in political philosophy.

SM 380. Topics in Aesthetics. (M) Staff. Department Majors Only.

This course will study particular periods in the history of aesthetics and the philosophy of art or particular current problems in the field. Examples of the former would be ancient, eighteenth-century, nineteenth-century, or twentieth-century aesthetics; examples of the latter would be the definition of art, the nature of representation and/or expression in the arts, and art and morality.

Advanced Courses

SM 405. Philosophy of Language. (M) Miracchi. Prerequisite(s): PHIL 005 or PHIL 505 or permission of instructor.

This course provides an overview of 20th century analytic philosophy of language. Here are some of the questions we will ask: How do words refer? How do they combine to express thoughts? How do words relate to concepts or to thoughts more generally? What do words and sentences mean? How do we use them to communicate with each other? How does word and sentence meaning depend on the contexts in which they are spoken or heard, or on stable features of environments of linguistic

speakers? Prerequisites: This course will be most suitable for advanced undergraduates and graduate students in philosophy or linguistics; others need instructor's permission. Familiarity with symbolic logic is highly recommended, but not required.

SM 407. Aristotle. (M) S.Meyer.

A study of Aristotle's main writings on language, reality, knowledge, nature and psychology. All texts will be read in English translation. No background in Greek philosophy or knowledge of Greek is required, although previous work in philosophy is strongly recommended.

SM 410. (LGIC310, MATH570) Introduction to Logic and Computability. (M) Weinstein.

Prerequisite(s): Math 371 or Math 503.

Propositional logic: semantics, formal deductions, resolution method. First order logic: validity, models, formal deductions; Godel's completeness theorem, Lowenheim-Skolem theorem: cut-elimination, Herbrand's theorem, resolution method. Computability: finite automata, Turing machines, Godel's incompleteness theorems. Algorithmically unsolvable problems in mathematics.

SM 412. (CIS 518, LGIC320, LGIC499, MATH571, MATH670) Topics in Logic. (M) Weinstein.

This course will examine the expressive power of various logical languages over the class of finite structures. The course begins with an exposition of some fundamental results about first-order logic in the context of finite structures and then proceeds to consider various extensions of first-order logic including fixed-point operators, generalized quantifiers, infinitary languages, and higher-order languages. The expressive power of these extensions will be studied in detail and connections with the theory of computational complexity and with combinatorics will be explored.

SM 414. Philosophy of Mathematics. (M) Weinstein, Ewald.

The course will focus on the development of the foundations and philosophy of mathematics from the late nineteenth-century through the present day. Topics will include logicism, formalism, intuitionism, and the foundations of set theory. Ample consideration will be given to some of the fundamental results of mathematical logic, such as the Godel incompleteness theorems and the independence of the Continuum Hypothesis from Zermelo-Fraenkel set theory, that

have had a profound impact on contemporary approaches to the philosophy of mathematics.

L/R 421. (PHIL226, PPE 421) Philosophy of Biology. (M) Weisberg.
Prerequisite(s): Either two philosophy courses OR Biology 101/102 (or equivalent).

This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin's formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theories of Richard Dawkins' and Richard Lewontin's. The remainder of the course will deal with a number of foundational issues and may include discussions of adaptation, what constitutes a species, evolutionary progress, the concept of fitness, the units of selection, the alleged reduction of classical genetics to molecular genetics, and the possibility of grounding ethics in evolutionary theory. The evolution of altruism will also be discussed, time permitting.
PREREQUISITES: Either two philosophy courses OR Biology 101/102 (or equivalent)

SM 423. (VLST223) Philosophy and Visual Perception. (C) Hatfield, Connolly.

The course starts with some central issues in the philosophy of perception from the modern period, which many include what we perceive, the meaningful content of perception, and its relation to a mind-independent external world. It will then focus on two or three more specific topics, yet to be chosen. These may include: (1) color perception and color metaphysics; (2) object perception in its interplay between Gestalt organizational factors and background knowledge; (3) the role of ecological regularities in the formation of our visual system and in the ongoing tuning of the system to the environment; (4) the geometry of visual space and the phenomenology of visual appearances of size and shape; (5) the problem of how visual scenes are experienced by means of images and the representational relation between images and things imaged, including the characteristics of linear perspective and its status as arbitrary convention or optically and naturally based system. Readings from authors such as Bertrand Russell, R. W. Sellars, Tim Crane, Evan Thompson, Robert Swartz, Wolfgang Metzger, Nelson Goodman, Richard Wollheim, and William Hopp, among others.

SM 425. (STSC325) Philosophy of Science. (C) Domotor. Prerequisite(s): Background in elementary logic and some rudiments of science.

This self-contained course (presupposing no substantive prior background in philosophy nor any extensive knowledge of science) provides an advanced introduction to the central philosophical questions concerning the nature of scientific knowledge and its relation to experience, and the metaphysical assumptions underlying the natural sciences. Topics to be covered include: science versus pseudoscience, laws of nature, causation, determinism and randomness, theories and models in science, scientific explanation, underdetermination of theories by observation and measurement, realism and antirealism, reductionism and intertheory relations, objectivity and value judgments in science, hypothesis testing and confirmation of scientific theories, and classical paradoxes in scientific methodology.

SM 426. (STSC426) Philosophy of Psychology. (M) Hatfield.

An examination of major trends of thought in experimental psychology in relation to philosophy and the philosophy of science. Questions to be asked include: What is the subject matter and object of explanation of experimental psychology? What is the relation between psychology and neuroscience? How is scientific psychology related to traditional philosophical investigations of the mental? The course covers the classical systems and schools of psychology, starting with Wundt and James, and proceeding to behaviorism, Gestalt psychology, cognitive and perceptual psychology, and cognitive science. The second half of the course examines contemporary problems, including: introspection and consciousness; philosophical foundations of cognitive science (computation vs. information); theories of the extended and embodied mind; methodological and conceptual problems in investigating the evolution of mind, brain, and culture; and the relation between neuroscience and psychology, using cases from particular areas such as attention and memory. Readings will include works by Koehler, Skinner, Fodor, Shapiro, and others.

SM 428. Philosophy of Social Science. (M) Staff.

An examination of fundamental philosophical issues concerning forms of social organization. Consideration of philosophical critiques of society.

SM 430. Philosophy of Mind. (M)
Miracchi.

This course studies particular topics in contemporary philosophy of mind and cognitive science. Examples include: the nature of consciousness, naturalistic accounts of intentionality, the nature scope of scientific explanation in studying the mind, the intersection of philosophy of mind and epistemology, and theories of agency. Typically, readings include both philosophy and empirical work from relevant sciences. Prerequisites: This course will be most suitable for advanced undergraduates and graduate students in philosophy or related sciences; others need instructor's permission.

SM 431. Theory of Knowledge. (M)
Domotor.

This course introduces students to the field of formal epistemology. Although some formal methods will be used, the principal objective is to explore various conceptual issues arising in modeling and representing knowledge. Topics include: bridging the gap between mainstream and formal epistemology by exploring various versions of the familiar tripartite definition of knowledge (knowledge as justified true belief) in light of folksy examples and counterexamples, basic logical and probabilistic models of knowledge (Hintikka, Aumann, and Bayesian) and their multi-agent variants, logical omniscience and other problems (including the epistemic closure principle), attempts at formalizing joint and common knowledge, resource-bounded knowledge, knowledge under limited logical powers, and empirical knowledge obstructed by system complexity. There are no prerequisites for this course, except some logical maturity.

436. (CLST436) Hellenistic Philosophy. (M) S.Meyer.

Prerequisite(s): This course will be most suitable for advanced undergraduates and graduate students in Philosophy or Classics; others need instructor's permission.

A survey of the natural philosophy, ethics, and epistemology of the three major schools of post-Aristotelian philosophy in the West in the period up to approximately 200 CE: the Stoics (followers of Zeno of Citium), the Epicureans (followers of Epicurus), and the Sceptics--both the "Academics" (later members of Plato's Academy) and the "Pyrrhonists" (inspired by Pyrrho of Elis). Although less well known today, the Stoics, in particular, were influential in the development of early Christian philosophy, and all three schools were highly influential in the development

of early modern philosophy. Authors to be read include Cicero, Seneca, Lucretius, Sextus Empiricus, and Stobaeus. All texts will be read in English translation. No Latin or Greek is required.

SM 441. Metaphysics. (M) Staff.

Fictionalism: There are fictionalist accounts of morality, possible worlds, mathematical objects, and even truth. In this course we will examine these accounts and the metaphysical repercussions that the fictionalist strategy commits us to. We will be covering various case studies of fictionalism, and assessing the validity of such accounts. Authors read will include Sainsbury, Kalderon, Everett, and Friend.

SM 442. Origins of Analytic

Philosophy. (M) Staff. Prerequisite(s): PHIL 005 and one other philosophy course, or permission of instructor.

This course will explore the history of analytic philosophy through the lens of two of its most influential figures: Gottlob Frege and Ludwig Wittgenstein. In the first half of the course, we will explore Frege's project in **The Foundations of Arithmetic** to ground the truths of mathematics in the truths of logic and the wider contributions to the philosophy of language and mind he made in attempting to carry out this project. In the second half of the course, we will explore Wittgenstein's **Philosophical Investigations** with particular attention to the skeptical worries about rule-following and its implications for the social basis of mental and linguistic representation. In addition to an in-depth study of these primary texts, secondary readings will be drawn from the work of Tyler Burge, Michael Dummett, Meredith Williams, Peter Hacker and others. The ultimate goal of the class is to both introduce students to the work of Frege and Wittgenstein, and to highlight the ways in which their different philosophical methodologies continue to animate debates in analytic philosophy.

SM 444. Wittgenstein. (M) Staff.

A study of the later philosophy of Ludwig Wittgenstein.

SM 448. (GRMN525) 19th Century Philosophy. (M) Horstmann.

After an orientation to Kant's philosophy, we will examine Hegel, Feuerbach, Marx, and Nietzsche.

SM 450. African, Latin American and Native American Philosophy.

Guerrero.

This course is an introduction to philosophical work from Africa, Latin America, and the indigenous peoples of

North America, covering topics in ethics, metaphysics, epistemology, philosophy of mind, aesthetics, social philosophy, and political philosophy. The course aims to give work from these traditions greater exposure and to provide a chance for students to encounter work that might spark an interest in future research. We will cover in some depth views held by Akan, Aztec, Blackfoot, Dogon, Iroquois, Lakota, Navajo, Ojibwa, and Yoruba peoples. We will also read work by a number of philosophers, including: Kwame Anthony Appiah, Kwame Gyekye, Julius Nyerere, Sor Juana Ines de la Cruz, Simon Bolivar, Jose Marti, Jose Vasconcelos, Enrique Dussel, Gregory Cajete, Anne Waters, and many others. Throughout, we will also engage with related meta-philosophical issues that emerge with work from all three areas, allowing for interesting cross-discussion.

Are these really proper subfields of philosophy? How do we make sense of the idea of African (or Latin American, or Native American) Philosophy as a field? Are there philosophically important differences between oral traditions and written traditions? How should we understand ethnophilosophy and cultural worldviews as philosophical contributions? How should we think of the "sage" figure in relation to philosophy? How do these traditions engage discussions of identity, autonomy, and post-colonialism? Should this work be incorporated into the mainstream philosophical canon?

SM 460. Continental Rationalism. (M)

Hatfield, Detlefsen. Prerequisite(s): PHIL 004 or permission of instructor.

In this course, we will read closely some of the definitive texts of seventeenth century European philosophy, using the concept of the human being as our focal point. We will concentrate primarily on the human considered as a biological being (thus developing our understanding of the scientific advances of this century), as a conscious being (thus developing our understanding of theories of mind in this century), and (where relevant) as a moral being. We will focus our attention on Descartes, Spinoza and Leibniz, but draw as well upon texts from other thinkers, particularly Elisabeth, Malebranche and Cavendish. There will be two lectures per week, and discussion is strongly welcome.

SM 463. British Philosophy I. (M)

Staff. Prerequisite(s): PHIL 004 or permission of instructor.

A study of epistemology and metaphysics in classical British philosophy. Authors

studied included Bacon, Hobbes, Locke, Berkeley, Hume, Reid, and Mill.

SM 464. British Philosophy II. (M)

Staff. Prerequisite(s): PHIL 002 or PHIL 004 or permission of instructor.

A study of moral philosophy, political philosophy, and aesthetics in classical British philosophy. Authors studied include Hobbes, Locke, Hutcheson, Hume, Kames, Adam Smith, and Reid.

SM 465. (GRMN551) Kant I. (M)

Hatfield, Horstmann. Prerequisite(s): PHIL 004, one advanced Philosophy course, or permission of instructor.

The course will concentrate on the Critique of Pure Reason and discuss in detail Kant's conception of knowledge and experience, his criticism of traditional metaphysics and the resulting project of a system of transcendental philosophy.

SM 466. (GRMN552) Kant II. (M) Staff.

Prerequisite(s): PHIL 002, PHIL 004, or permission of instructor.

This course is a study of Kant's moral and political philosophy. The central theme of the course is Kant's conviction that freedom or "Autonomy" is our most basic value, and that the fundamental law of morality as well as the more particular principles of both justice and personal virtue are the means that are necessary in order to preserve and promote the existence and exercise of human freedom. Central questions will be how Kant attempts to motivate or prove the fundamental value of freedom and the connection between this normative issue and his metaphysics of free will. Texts will include Kant's Lectures on Ethics, Groundwork for the Metaphysics of Morals, Critique of Practical Reason, Religion within the Boundaries of Mere Reason, and Metaphysics of Morals. Written work for the course will include one short paper and one term paper.

L/R 467. (GRMN567) Topics in History of Philosophy. (M)

Hatfield, Detlefsen. Prerequisite(s): Previous course in Philosophy or History and Sociology of Science.

In this course, we will study figures and themes from the 17th through the 18th centuries, an especially fertile period in the history of philosophy. Topics will vary from year to year. Please see individual course descriptions.

SM 468. (GRMN583) Hegel. (M)

Horstmann.

Hegel is famous (or rather infamous) for entertaining and endorsing startling and obscure claims like 'Contradiction is the

rule of truth'. 'The Truth is the whole', 'What is rational is real, and what is real is rational'. Before one is in the position to evaluate, to criticize (and to dismiss) these claims one has to become familiar with their philosophical background. The aim of the seminar is to find out what is meant with claims like these and why Hegel thought of them as reasonable. In order to achieve this aim one has to get acquainted with the basic metaphysical assumptions of his philosophy and with the problems these assumptions are supposed to solve.

The seminar will focus primarily on some of Hegel's early Jena writings, his Phenomenology of Spirit, on passages from different versions of Hegel's Logic and (maybe) on aspects of his Philosophy of Right. Topics that are dealt with include: (1) Hegel's conception of philosophy, (2) the development of his system, (3) the problem of an introduction to his system (Phenomenology of Spirit), (4) Hegel's criticism of traditional metaphysics, (5) his notion of a 'concept' (Begriff), his theory of the Idea. Other topics might become of interest as well.

SM 472. Survey of Ethical Theory. (M) Lord.

Murder is wrong. Slavery is unjust. Everyone has reason not to torture their neighbor. Having inconsistent preferences is irrational. On these matters most agree. But what do we mean when we say these things? What state of mind are we in when we think these things? What, is anything, do these claims refer to in the world? Is it the same kind of things that we investigate when we do science? Do we know these things? If so, how? Are these claims even true? If they are ever true, are they true for everyone? These are some of the core questions of metaethics. This course is an investigation of the main questions and problems in metaethics since the turn of the 20th century. We will investigate questions about the metaphysics of morality, the philosophy of language of moral talk, the philosophy of mind of moral thought, the epistemology of morality, and the objectivity of morality.

SM 473. (PHIL273) Topics in Ethics. (C) Chappell.

Is abortion wrong? Or euthanasia? Are we justified in eating animals? Why, or why not? we will explore these and other "life and death" ethical problems in a systematic way, seeing how the reasons we give in answer to one question may influence what we can consistently say about others.

SM 475. (PPE 475) Political Philosophy. (M) Freeman, Bicchieri.

This is a research seminar covering interdisciplinary research in psychology, philosophy, cognitive science and behavioral economics. Our focus will be on identifying and discussing issues of philosophical significance raised by recent work in moral psychology, experimental economics and behavioral decision making.

477. (LAW 544) Philosophy and the Law. (M) Finkelstein.

This first half of the course will provide an introduction to the main currents of thought about the nature and function of law. It will consider, among other things, the classic problem of the source of law's authority, exploring whether an unjust law is still a law, and whether law does or ought to bear a close relation to morality. Should Nazi officials or East German border guards be punished if they were "just following orders"? What about the judges who enforced the implementation of such laws? Do the conclusions we would reach in the foregoing contexts apply to the conduct of Americans in dealing with suspected terrorists or other detainees? We will consider the divergent answers to these questions suggested by the work of J.L. Austin, H.L.A. Hart, Ronald Dworkin, Joseph Raz, and others. After addressing these traditional jurisprudential inquiries, we will turn to more recent philosophical inquiries in philosophy of law. What is the justification for punishment and how do the various debates in this area play out in specific controversial cases? Is torture ever permissible, whether as part of a scheme of punishment or as part of a system of law enforcement? Is targeted killing a permissible part of just war theory? What should be our stance to government officials who violate the law?

As we shall see, each one of these applied topics divides into deontological theorists, on the one hand, and utilitarian, or economic, theorists on the other. We will raise the question of whether these two theories exhaust the possible moves one might make on these various topics, or whether other approaches, such as a contractarian approach, are viable options. The course will require a final, take home exam, as well as attendance, preparation and participation in discussion. The latter will count towards roughly 10% of students' grades. This course is cross listed with LAW 544.

SM 479. Modern Political Philosophy. (M) Freeman.

A survey of several works in modern political philosophy, including Thomas

Hobbes's, *Leviathan*; John Locke's, *Second Treatise on Government* and *Letter Concerning Toleration*; David Hume's 'Of the Original Contract' and 'On Justice'; John Stuart Mill's *Utilitarianism*, *On Liberty*, and *The Subjection of Women*; excerpts from Karl Marx's *Capital* and other writings; and John Rawls's *A Theory of Justice*.

SM 480. (COML582, GRMN580) Topics in Aesthetics. (M) Staff.

Walter Benjamin: *Art, Philosophy, Literature*. Walter Benjamin (1892-1940) is a philosopher whose writings on art, literature, and politics have had tremendous influence on cultural studies. He has been variously described as one of the leading German-Jewish thinkers, and a secular Marxist theorist. With the publication of a new four-volume collection of his works in English, many more of his writings have been made accessible to a wider public. Our seminar will undertake a survey of his work that begins with his studies on language and allegory, and continues with his autobiographical work, his writings on art and literature, and finally on the imaginary space of the nineteenth-century.

SM 485. (GSWS485) Topics in Gender Theory. (M) Staff.

This course seeks to assemble some of the philosophical evidence for feminist claims that traditional political theories are fundamentally inadequate because they have not, and presumably cannot, deal with basic facts of gender and the oppression of Women. We will begin by examining the nature of the distinction between sex and gender. This will take us through discussions of: the meaning and significance of categories being socially constructed, the possibility that sexual differences (and inequalities) are in some sense natural and what normative force this has. We will then consider various attempts to describe the nature of women's oppression. What is it? How does it manifest itself in the lives of women? This will take us through discussions of freedom, constrained choice, ideology, "consciousness raising", androcentrism and the relation between, and methodological importance of, ideal and non-ideal theory. Along the way we will be constructing a version of the feminist framework known as the dominance approach and seeing how it analyzes three presumed sites of oppression: sexuality, reproduction and work/family. Among the authors we will be reading are: Elizabeth Anderson, Marily Frye, Sally Haslanger, Rae Langton, Anthony Laden, Catherine MacKinnon, and Susan Okin.

The prerequisite for UNDERGRADUATES taking this course is: two philosophy courses (ONE of which is in moral or political philosophy) OR ONE of the following Gender Studies courses: GSWS/PHIL 028, GSWS/PoliSci 280, GSWS 320. There will be one short paper (6-8 pages) with revision, a longer final paper (15 pages) and weekly one-page reflections on a topic from the previous week's discussion.

SM 488. The Idea of Nationalism. (M) Steinberg.

Nationalism has been the most important geo-political phenomenon of the past two hundred years. Its continuing power has been amply demonstrated by recent events in many parts of the world. This seminar course will explore the ideology of nationalism, what it means, its philosophical foundations, underlying assumptions about the nature of human identity, moral implications, and political consequences. In the process, we will explore such questions as: What is a nation? Does every identifiable ethnic or national group have a valid claim to a nation-state of its own? How are claims to national self-determination justified? How do nations differ from states, peoples, groups, communities, and citizenries? How does nationalism relate to notions of "chosenness" or ethnic and cultural superiority? Why do nationalist movements seem to so often engender political extremism and violent ethno-political conflicts? Is national self-determination compatible with our commitments to individualism, rationality, and universal human rights?

SM 489. Ethnicity, Identity and Nationhood. (M) Staff.

Contemporary public discourse -- in politics, in the media, on the Internet, and throughout our culture -- gives expression to intense, sometimes violent, disagreements and conflicts that often frustrate the solution of important public policy questions, curtail productive public deliberation and dialogue, and profoundly challenge our leaders and institutions. This course will deepen our understanding of the role that political and cultural ideologies -- such as liberalism, conservatism, nationalism, totalitarianism, fundamentalism, etc. -- play in these conflicts and the psychology of ideological thinking that makes them so difficult to resolve.

We will begin by considering a series of case studies in contemporary political, social and cultural conflict, drawn from contemporary events such as the 2012

political campaigns, the 2011 debt ceiling debate in Congress, nationalist movements around the globe, etc. We will identify and examine the ideologies driving such conflicts, and from these we will draw out the common philosophical characteristics and psychological features of ideological thinking. Throughout, we will seek to understand the deep attraction of ideological commitments and why they tend to push public discourse and behavior to extremes and even violence. Finally, we will consider efforts to reduce or resolve ideological conflicts through strategies of political compromise, dialogue, toleration, and democratic deliberation.

Graduate Courses

L/R 505. (PHIL005) Formal Logic I. (C) Domotor, Weinstein. Undergraduates Need Permission.

This course provides an introduction to some of the fundamental ideas of logic. Topics will include truth functional logic, quantificational logic, and logical decision problems.

506. (MATH570, PHIL006) Formal Logic II. (B) Weinstein. Undergraduates Need Permission.

An introduction to first-order logic including the completeness, compactness, and Lowenheim-Skolem theorems, and Godel's incompleteness theorems. UNDERGRADUATES NEED PERMISSION

SM 508. Early Plato. (M) Staff. Undergraduates Need Permission.

A study of Plato's earlier dialogues, from the *Apology* to the *Republic*, focussing on the moral and political background motivating the doctrine of Forms, and tracing the emergence of that doctrine first as a theory of essences (in the dialogues of definition) and finally as a metaphysical theory in the *Symposium*, *Phaedo* and *Republic*. UNDERGRADUATES NEED PERMISSION

SM 510. Late Plato. (M) Staff. Undergraduates Need Permission.

Tracing the development of Plato's metaphysics from the *Parmenides* to the *Timaeus*, including key passages from the *Theaetetus* and *Sophist*.

SM 513. Plotinus. (M) Staff. Undergraduates Need Permission.

An introduction to the thought of the major philosopher of late antiquity, founder of Neo-Platonism. Readings will include generous selections from the *Enneads*.

521. (PHIL226, PPE 225) Philosophy of Biology. (C) Weisberg.

Undergraduates need permission.

This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin's formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theory: Richard Dawkins' and Richard Lewontin's. The remainder of the course will deal with a number of foundational issues including adaptation, the units of selection, the evolution of altruism, and the possibility of grounding ethics in evolutionary theory.

UNDERGRADUATES NEED PERMISSION

SM 522. (CIMS502) Philosophy and Film. (M) Detlefsen. Undergraduates Need Permission.**SM 525. (COML525, HSSC527) Topics in the Philosophy of Science. (M)**

Weisberg, Bicchieri. Prerequisite(s): Familiarity with behavioral game theory and psychology. Undergraduates Need Permission.

For the last four centuries, scientific research has provided our most reliable understanding of the world. Although the scientific revolution started modestly with attempts to understand stellar movement, we now know the age and constitution of the universe, the basis of heredity, and we can make and break chemical bonds at will. By all appearances, science seems to have made substantial progress from the scientific revolution to the global scientific enterprise of the 21st century. This course is about how science has generated this knowledge, and whether it has been as progressive and reliable as it seems. We will consider methodological issues such as the sources of scientific knowledge, objectivity, the growing importance of computation in the natural sciences, and the nature of modeling. We will examine products of scientific research: explanations, models, theories, and laws of nature. And we will discuss questions about science and values, including whether non-scientific values can and should enter scientific research, the relationship between science and religion, and the role of the public in guiding the scientific enterprise.

SM 526. (GRMN527) Philosophy of Psychology. (M) Hatfield, Steinberg. Undergraduates Need Permission.

The seminar will consider selected episodes in the interaction between philosophy and

psychology. It starts with an intensive study of Descartes' machine psychology (in the Treatise on Man), which should complicate our picture of the history of such interactions. We then proceed, partly in response to student interest, to interactions involving Kant and nineteenth-century Kantians, Rylean "behaviorism", and recent work on the embodied mind (Wheeler, others).

L/R 527. (PHIL027) Conceptual Foundations of Quantum Mechanics. (M)

Hatfield, Steinberg. Undergraduates Need Permission.

Quantum theory provides the fundamental underpinning of modern physical science, yet its philosophical implications are so shocking that Einstein could not accept them. By following the historical development of 20th century quantum science, the student should gain an appreciation of how a scientific theory grows and develops, and of the strong interplay between scientific observation and philosophical interpretation. Although students will not be expected to carry out mathematical derivations, they should gain an understanding of basic quantum findings. Students enrolling in 527 must register for the recitation section that is reserved for that number, which is for graduate students.

SM 528. Philosophy of Social Science. (M) Bicchieri. Prerequisite(s):

Familiarity with behavioral game theory and psychology. Undergraduates Need Permission.

SM 530. Philosophy of Mind. (M)

Hatfield, Miracchi. Undergraduates Need Permission.

Agent Architectures: In philosophy of mind, we spend a lot of time asking about particular kinds of mental states--about the nature of perception, belief, desire, intention, etc. But what about how it all fits together? How do you put the pieces together to get an intelligent agent out of it. And what does that in turn tell us about the nature of mental states? We will spend the first part of the course discussing some of the classical positions in philosophy of mind and artificial intelligence--especially functionalism and the classical "sandwich model" of AI. Then we will explore some new alternatives. We will investigate the possible role of the body, the environment, competences, and emotions in determining agent architectures. Of particular interest to us will be the question of whether we can understand the architecture of intelligent agents in a way that helps to explain how they might be improved upon

and made more sophisticated (e.g. by evolution). UNDERGRADUATES NEED PERMISSION.

SM 531. Social Norms. (M) Bicchieri. Undergraduates Need Permission.

This is a graduate research seminar covering interdisciplinary research in psychology, philosophy, sociology and behavioral economics related to social norms. Social norms are informal institutions that regulate social life. We will devote particular attention to the following questions: 1. What is a good, operational definition of social norms? 2. Is there a difference between social and moral norms? 3. How can we measure whether a norm exists, and the conditions under which individuals are likely to comply with it? 4. Are behavioral experiments a good tool to answer questions? 5. How do norms emerge? 6. How are norms abandoned? 7. What is the role of trendsetters in norm dynamics?

SM 532. Topics in Epistemology. (M) Singer. Undergraduates Need Permission.

This graduate seminar will cover some topics of interest to contemporary epistemologists. Possible topics may include skepticism, accounts of knowledge and justification, virtue epistemology, formal epistemology, social epistemology, feminist epistemology, meta-epistemology, and epistemic normativity. This course will be aimed at philosophy graduate students. Other graduate students and undergraduates should consult with the instructor before enrolling.

SM 536. Stoicism. (M) S.Meyer. Undergraduates Need Permission.

A study of some major texts in Ancient Greek Scepticism. We will begin with Plato's Academy, more than a century after the death of its founder, when the head of the school Arcesilaus (315-240 BCE) advocates a turn away from "doctrinal Platonism" (that is, working out and defending the tenets of Plato's philosophy) and a return to the critical stance of Socrates in many Platonic dialogues, who advances no doctrines himself but criticizes the claims of others. Much of the intellectual activity of the so-called "Sceptical Academy" is directed at contesting the doctrines of their contemporaries in Hellenistic Athens: Stoic, Epicurean, and Peripatetic philosophers, with particular emphasis on the Stoic doctrine of the "cognitive impression", which the Stoics invoked as the foundation of all knowledge. Many of these debates are reported in Cicero's On Academic Scepticism, which is the first

text we will study. By the late first century BCE, the Academy departed far enough from this "skeptical stance" that in reaction, the Academic Aenesidemus left that institution to found Pyrrhonism, which takes the fourth-century figure Pyrrho of Elis (360-270 BCE) as its symbolic figure head. The fullest account of Pyrrhonist Scepticism is in the writings of a 2nd century CE physician, Sextus Empiricus, whose *Outlines of Pyrrhonism* and

Against the Ethicists will be the other major texts studied in this course. All readings will be in English translation. No knowledge of Greek or Latin is required.

SM 540. Topics in Philosophy of Language. (M) Staff. Undergraduates Need Permission.

Expressivism: Emotions, Evaluations, and Linguistic Meaning: In this seminar, we will explore the virtues and drawbacks of expressivism, broadly construed. Most contemporary philosophers of language analyze meaning in terms of truth-conditional content: how the world would have to be for an assertion or other speech act to be satisfied. But in many cases, it's unclear just what ontologically respectable facts could make our utterances true. Further, much of our communicative activity appears to be aimed at affecting our interlocutors' hearts and actions as much as their minds. If some aspects of conventional linguistic meaning involve the expression of evaluative or emotional attitudes rather than (just) truth-conditional content, how should a theory of meaning analyze this? We'll begin with classic discussions of moral emotivism (e.g. Ayer, Hare) and more recent versions of expressivism in ethics (e.g. Gibbard, Blackburn), paying special attention to the Frege-Geach problem. Next, we'll turn to recent discussions of epithets, especially racial slurs, in the philosophy of language (e.g. Williamson, Brandom, Hornsby), tracing out similarities and contrasts with moral expressivism.

SM 547. Leibniz/Locke. (M) Detlefsen. Undergraduates Need Permission.

This course focuses on topics in philosophy of the 17-18th centuries. Topics may include one of the following, according to the interests of the class.

An examination of the development of a few topics in natural philosophy in the early modern period, such as: method (the evolution of hypotheses and their reception, the relation of theory to empirical work, and the importance of different kinds of empirical work, e.e. observation, experiment, use of instruments); the relation of metaphysics to the 'sciences'

(including what is meant by "metaphysics", and what falls under the scope of the various sciences); and the special role played by the life sciences.

A study of various social, political, and ethical issues, including the role that women played in these issues, and the nascent forms of feminism that emerged in the early modern era.

SM 550. Topics in Philosophy of Education. (M) Detlefsen.

Undergraduates Need Permission.

In this course, we will examine some of the most pressing problems in contemporary philosophy of education. These problems include: how much control over a child's education ought to be allocated to parents and how much to the state; what role, if any, ought religion to play in education; how do race and gender impact individuals' educational experiences and how should such issues should be addressed in the classroom; what sort of (if any) civic education ought to be taught in schools (especially in wartime such as in the post 9-11 USA); and how should schools be funded? We will deal with a number of case studies, mostly recent, but some crucial historical cases as well. Our readings will be primarily philosophical texts, supplemented with those from other fields, such as psychology, history and sociology, in order to provide empirical context to the theoretical problems facing education today. As a seminar, the instructor welcomes student participation, including students bringing their own interests in educational theory to the classroom. At the same time, the instructor will lecture to the extent necessary to make classroom discussion especially rich.

SM 551. (GRMN560) Topics in Early Modern Philosophy. (M) Detlefsen.

Undergraduates Need Permission.

Women, liberty, feminisms and ways of approaching the history of philosophy.

In this course, we'll look at the various ways women and men of the early modern period thought about liberty, most particularly as it related to women as individuals and in their social-political roles. We will draw upon texts that are clearly 'philosophical' (in the way we think about philosophy in contemporary anglo-analytic philosophy departments) as well as texts that are not so typically 'philosophical'. In addition to looking at the concept of liberty as it pertains to women, there will be two meta-themes to the course. First, does it make sense to think of thinkers writing 300 years ago as feminists, or is that just a "vile anachronism" as some scholars believe?

And if it does make sense, what forms of feminism can we discern in the early modern period? Second, what are the best ways to integrate atypical philosophy texts into a study of the history of philosophy?

SM 552. (AFRC254, AFRC552, PHIL252) African American Philosophy. (B) Allen-Castellitto.

A new field has slowly begun to emerge within the traditional discipline of academic philosophy: African-American Philosophy. "African American Philosophy" refers here to conceptually and analytically rigorous philosophical studies of topics closely related to the social, legal, economic, historical and cultural experiences of US peoples of African descent. The field has appeared in tandem with a striking increase in the number of professionally trained philosophers of African descent holding the Ph.D. in philosophy, and employed as full-time teachers and scholars. A recent estimate puts the number of philosophers of African descent working in the US at about one hundred; and about twenty of these are African-American women. A significant body of scholarship now describes, explains, critiques and evaluates African American culture, slavery, oppression, discrimination, integration, segregation, equality, gender politics, labor, families, health, mental health, and the significance of race to identity, morality, ethics, politics, democracy, public policy, law, science, technology, the humanities and the arts. This unique lecture course will be a thematic introduction to African American Philosophy since 1960. Weekly topics will be chosen from among these clusters: Slavery, Colonialism, Oppression and Freedom;

Segregation, Integration and Equality; Gender, Sex and Sexualities; Reproductive Rights and Responsibilities; Religion and Spiritualism; Rebellion, Protest, Social Movements and Citizenship; Economic Welfare, Labor and Inequality; Violence, Crime and Punishment; Education, Affirmative Action and Diversity; Reparations and Forgiveness; Identities and Stereotypes; Nature, Science and Health; Psychology, Psychiatry and Mental Health; Pragmatism; Existentialism; and the Sociology of Philosophy. We will read works by Cornell West, Adrian Piper, Charles Mills, Lewis Gordon, Anita Allen, Anthony Appiah, Lucius Outlaw, Naomi Zack, Lawrence Thomas, Bill Lawson, Michele Moody Adams, and others. For most undergraduate students, evaluation in the course will be based on a mid-term and final exam with essay and objective components. Advanced students and

graduate students enrolled in the course will have an opportunity to write a substantial supervised paper on a topic of their own choosing in lieu of the exams.

SM 554. (GRMN580) Contemporary Continental Philosophy. (M) Staff. Undergraduates Need Permission.

This seminar course is an introduction to 20th-century continental European philosophy, focusing on the origins and development of phenomenology, existentialism, hermeneutics, and deconstruction. The centrality of phenomenology (and its interpretation) to an understanding of these movements and other contemporary trends in European thought will be emphasized throughout. No previous background in philosophy is required. Human beings live in a world permeated and defined by meanings. How we create, communicate, and comprehend meaning has been one of the central questions of continental European philosophy over the past century. In this course, we will explore why meaning plays such a central role in all attempts to understand human experience and how this insight has profoundly influenced major trends in contemporary thought. We will begin the semester with an introduction to the phenomenology of Edmund Husserl and the contemporary debate over its proper interpretation. This will be followed by an examination of three existentialist critics of Husserl, whose philosophies have influenced much of recent continental thought: Martin Heidegger, Jean-Paul Sartre, and Maurice Merleau-Ponty.

Finally, we will examine the important influence of phenomenology and existentialism on contemporary trends in continental philosophy as exhibited in works by Paul Ricoeur, Hans Georg Gadamer, Jacques Derrida, Hannah Arendt, and Emmanuel Levinas.

SM 558. Truth & Concealment. (M) Spencer. Undergraduates need permission.

This course is an exploration of traditional philosophical questions concerning objectivity in science. We will start by addressing central questions in feminist philosophy of science, such as what is objective reality and what is objective knowledge? Next, we will explore whether science discovers objective real entities or relations, which is a central topic in the scientific realism debate. We will also explore whether scientific knowledge is objective. We will read mostly 20th and 21st century philosophers of science, such as Goodman, Kuhn, Psillos, and Longino. We will also apply what we learn to at least

one case study. UNDERGRADUATES NEED PERMISSION

SM 560. Descartes. (M) Hatfield. Undergraduates Need Permission.

In this course, we will undertake an intensive study of the thought of Descartes, one of philosophy's most important figures. We will read his major works - Rules for the Direction of the Mind, The World, Discourse on Method, Meditation on First Philosophy, Principles of Philosophy, and Passions of the Soul - as well as some less well-known works and some of his correspondence. We will study his ideas on method and epistemology, metaphysics, physics and the life sciences, medicine, the nature of the human being, and value theory. While our primary aim will be to understand his philosophy as a whole and how his thoughts developed and changed through his life, we will devote some time to evaluating his legacy.

SM 562. MLA Proseminar in Philosophy. (M) Detlefsen.

In sixteenth century Europe, what we now think of as philosophy, science and religion were all part of a single integrated way of studying the world. By the late eighteenth to early nineteenth century, these three areas of study had, to a large degree, diverged into distinct disciplines. In this course we will study this separation of disciplines in order to come to some understanding about how and why this radical shift in western thought occurred.

SM 565. (PHIL362) Kant's Critique of Metaphysics. (M) Staff. Prerequisite(s): PHIL 465 or permission of instructor. Undergraduates Need Permission.

A study of Kant's critique of metaphysics and theory of regulative ideas in the "Transcendental Dialectic" and related texts such as CRITIQUE OF JUDGEMENT, ONLY POSSIBLE PROOF OF THE EXISTENCE OF GOD, and LECTURES ON PHILOSOPHICAL THEOLOGY. Collateral readings in such authors as Descartes, Leibniz, Spinoza, Wolff, Baumgarten, Mendelssohn, Bayle, and Hume.

SM 567. (GRMN525) Development of German Idealism. (M) Horstmann. Undergraduates Need Permission.

This course will start with a brief review of some features of Kant's philosophy and will focus on Fichte and Schelling, and will end with a discussion of the reaction to Idealism by Schopenhauer and Nietzsche.

SM 568. (GRMN568) Hegel. (M) Horstmann, Hindrichs. Undergraduates Need Permission.

Hegel's "Lectures on Aesthetics" are a seminal work in the philosophy of art. They conceptualize the different kinds of art, and they understand art in the context of a philosophy of history that is centered on the concept of freedom. We will explore the intellectual background of Hegel's thinking, especially Kant, Schiller, and Schlegel, and investigate the conceptual articulation of art with which Hegel provides us.

SM 572. Contemporary Ethics. (M) Freeman, Meyer. Undergraduates Need Permission.

A venerable idea throughout the history of ethics is that rationality is a fundamental or foundational part of the metaphysics of the normative. The course will be an investigation of several different strains of this rationalist idea. We'll discuss four rationalist views of the nature of normative reasons (Kantian, Humean, Aristotelian, and new-fangled constructivism). Our aim will be to investigate the plausibility of these rationalist views against the backdrop of a more recent hypothesis about the metaphysics of the normative--viz., the claim that normative reasons themselves are the fundamental constituents of the normative.

SM 576. (LAW 946) Rationality, Morality and Law. (M) Guerrero, Lord. Undergraduates need permission.

This class will be dedicated to investigating topics related to rationality in its many forms. Potential areas of study are metaethics, epistemology, moral psychology, and the philosophies of mind, language and action. UNDERGRADUATES NEED PERMISSION.

SM 577. (LAW 918, LAW 946, LAW 949, LAW 992) Topics in Philosophy of Law. (M) Guerrero, Perry, Berman, Finkelstein. Undergraduates Need Permission.

This seminar will examine leading academic theories of constitutional interpretation, starting with classic texts by (for illustration) Thayer, Wechsler, Ely, Bobbitt, Dworkin, and Scalia, and emphasizing current debates within originalism and between originalists and their critics. While the focus will be on American constitutional interpretation, we will also see how that literature is currently running up against, and possibly contributing to, more "philosophical" or "jurisprudential" accounts of the contents of law. Consistent with the nature of the

material, the reading load is likely to be somewhat heavier and more demanding than in the average seminar. Students will be expected to read the assigned material carefully and to participate actively in class discussions; they will have the option of submitting either a single research paper or several shorter papers.

SM 578. (LAW 946) Topics in Political Philosophy. (M) Freeman, Tan.
Undergraduates Need Permission.

This course examines the special problems culture and cultural membership pose for the liberal conception of justice. Liberal justice is supposedly impartial while cultural claims are thought to be partial and particular. And whereas liberal justice is concerned primarily with the individual, cultural claims are commonly thought to be group-based. How are these conflicting values to be understood? We will examine the problem of culture and justice as it arises in the domestic context (e.g., in the context of the liberal state) and in the global context. Some of the more specific questions we will examine include: Should our conception of justice be influenced by cultural claims? Should cultural differences shape our understanding of human rights? Or should justice transcend culture? What is the relationship between individual freedom and cultural membership? Are there, or should there be, such things as cultural rights? If cultural diversity ought to be tolerated and even celebrated, what are the limits of cultural toleration? Is nationalism justifiable? Authors we will read include John Rawls, Charles Taylor, Amy Gutmann, Will Kymlicka, Martha Nussbaum, and Susan Moller Okin. This course is open only to students in the MLA program.

SM 579. Social Philosophy. (M) Bicchieri.
Undergraduates Need Permission.

During the last dozen years there has been an explosion of interest in empirically informed moral psychology. In this seminar, we will review some of the cutting empirical and theoretical work that is being done in moral psychology and explore its philosophical implications. About half of the sessions of the seminar will be led by Professor Bicchieri, Professor Harman or Professor Stich. The other half will be led by leading philosophers and scientists from other departments and other universities.

SM 600. Proseminar. (A) Staff.

An intensive seminar for first-year doctoral students, with readings drawn from recent and contemporary epistemology and metaphysics, broadly construed. Students will develop their abilities to present and

discuss philosophical texts, and to write and revise their own papers.

601. Consortium Course. (C) Staff.
Graduate Students Only.

For graduate students taking courses at other institutions belonging to the Philadelphia area Philosophical Consortium.

SM 607. (CLST607) Presocratic Philosophy. (M) Staff.

Close study of fragments and doxography for the earliest Greek philosophers in the original texts.

SM 609. (CLST609, COML609, GREK606) Plato's Republic. (M) Staff.

A close reading and discussion of Plato's work. As much as possible of the text will be read in Greek.

SM 610. Plato's Symposium and Phaedrus. (M) Staff.

A close reading and analysis of Plato's two major dialogues on love.

SM 611. Plato's Philebus. (M) Staff.

A close reading of the text of one of Plato's latest and most difficult dialogues. Questions to be discussed include: the unity of the dialogue, relation to other late dialogues (such as the TIMAEUS), relation to the doctrine of Forms, relation to the "unwritten doctrines". Knowledge of Greek is not required.

SM 612. Topics in Hellenistic Philosophy. (M) S.Meyer.

Topics will vary.

SM 613. (LAW 618) Topics in Medieval Philosophy. (M) Staff.

Close reading of selected texts in medieval philosophy.

SM 625. Contemporary Metaphysical Problems. (M) Hatfield.

An examination of selected problems at the intersection of philosophy of psychology, philosophy of mind, and metaphysics.

SM 626. Topics in Philosophy of Psychology. (M) Hatfield.

We will investigate the notions of function, adaptation, and teleology as found in biology and as analyzed in the philosophy of biology; we will then apply these notions to selected problems in the philosophy of psychology pertaining to representation and content.

SM 630. Topics in Philosophy of Mind. (M) Hatfield.

Topics will vary, and may be historical or contemporary.

SM 633. (HIST610) Colloquium in American History. (M) Kuklick, B.

HIST 610 is a topics course. When the subject is appropriate, the course will be cross-listed with Philosophy. Please refer to the current timetable.

SM 642. Contemporary Metaphysics. (M) Staff.

This course will deal with the nature of necessity, essentialism, idealism and the concept of truth from a contemporary perspective.

SM 643. Carnap. (M) Staff.

A survey of Carnap's writings, with special attention to The Logical Construction of the World and The Logical Syntax of Language.

SM 644. Quine. (M) Staff.

A survey of Quine's philosophy with special attention to the critique of analyticity, truth and reference, indeterminacy of translations, ontological relativity, and physicalism.

SM 645. Reference. (M) Staff.

Contemporary discussions of reference with special attention to referential inscrutability, first person authority, and anti-individualism. Readings from Quine, Davidson, Putnam, Field, Wallace, Burge, and McDowell.

SM 646. Topics in Early Analytic Philosophy. (M) Staff.

Selected interpretive and philosophical issues from Frege, Russell, and early Wittgenstein.

SM 662. Hume's Philosophy of Mind. (M) Hatfield.

An examination of Hume's theory of mind, focusing on the Treatise and first Enquiry.

SM 665. Kant's Theoretical Philosophy. (M) Staff.

This course will study not Kant's system of philosophy but his philosophy of system, that is, the role of the concept of systematicity throughout his philosophical work. Special topics will include the role of systematicity in empirical knowledge and science, practical reasoning, and metaphysics, where systematicity functions as the criterion of the adequacy of philosophical theories themselves. Some prior acquaintance with the main themes of

Kant's theoretical and practical philosophy will be assumed.

SM 672. Topics in Ethics. (M) S.Meyer.

Phil 672 will be a workshop on writing papers for submission to either conferences or journals. Papers may address any topic in value theory, broadly construed, and some participants may choose to revise papers written for previous seminars. All participants will be responsible for generating short bibliographies and then leading class discussions on their topics, providing drafts of their papers for critique by the class, and presenting their papers to the class. Students who have passed their prelims are encouraged to participate as auditors.

674. (BIOH574) Topics in Bioethics. (M) Staff.

Topics will vary.

SM 678. Advanced Topics in Political Philosophy. (M) Tan.

In this course, we will examine various problems and questions in political philosophy. The focus will be on contemporary topics. This is an advanced seminar for graduate students who want to develop a professional-level paper on a particular subject, and the course will consist of readings on selected topics (selected by students) and students presenting their own papers (in various stages) on these topics. For graduate students in Philosophy only.

SM 679. Liberalism and its Critics. (M) Freeman.

This course will examine some of the fundamental these of liberalism and some of the criticisms they have encountered. In particular, we will examine the classical formulation of liberal theory in Immanuel Kant as well as his near-contemporaries Moses Mendelssohn and Wilhelm von Humboldt, and criticisms of this view by writers like G.W.F. Hegel and F.H. Bradley; we will then examine modern versions of liberalism in John Rawls and Ronald Dworkin, and its criticism, especially by "communitarians" like Michael Sandel, Charles Taylor, Alasdair MacIntyre, and Michael Walzer. We will be concerned with differences between the classical (Kantian) and contemporary (Rawlsian) foundations of liberalism as well as with the validity of the criticisms which have been made of each.

SM 680. (COML681) History of Aesthetics. (M) Staff.

A study of 18th century aesthetics focussing on Kant, his contemporaries, and successors.

SM 681. Philosophy of Literature. (M) Staff.

This course will begin with a survey of current topics and writings in the philosophy of literature: what is a narrative? what makes literary language expressive? what can we learn from fiction or poetry? The text here will consist largely of selected readings from the new Blackwell Companion to the Philosophy of

Language. We will then explore the relation between philosophy and literature in more depth by discussing Eva Dadlez's new book, "Mirrors to one another: emotion and value in Jane Austen and David Hume."

699. Independent Study. (C) Staff.

Directed readings in consultation with individual faculty members.

SM 700. Dissertation Workshop. (E) Freeman, Hatfield, Singer.

Registration required for all third-year doctoral students. Fourth year students and beyond attend and present their work in the Dissertation Seminar. From time to time, topics pertaining to professional development and dissertation writing will be discussed.

990. Masters Thesis. (C) Staff.

995. Dissertation. (C) Staff.

Ph.D. candidates, who have completed all course requirements and have an approved dissertation proposal, work on their dissertation under the guidance of their dissertation supervisor and other members of their dissertation committee.

998. Teaching Practicum (Independent Study). (C) Staff.

Supervised teaching experience. Four semesters are required of all Doctoral students in philosophy.

999. Independent Study. (C) Staff.

May be repeated for credit.

PHILOSOPHY, POLITICS, AND ECONOMICS (AS) {PPE}

Additional courses, fulfilling the distributional and level requirements of this major, are listed under Philosophy, Political Science, and Economics.

SM 260. Political Competition. Marini.

Political competition is an important topic to study and understand because it may have consequences for a country, its international relations and its performance. The aim of the course is to introduce the students to what political competition is, how political competition and market competition differ, to measurement issues and to use data and methodological techniques available to investigate the importance of political competition within and across countries. During the course the theory explained will be accompanied by examples and articles that will help to clarify the concepts, to understand how to use available data to study political competition and its effects on e.g. economic performance of countries.

SM 261. Research Methods in Social Sciences.

SM 460. Experiments in Behavioral Ethics. Bicchieri, Dimant.

In reality, our understanding of different mechanisms and (economic) relationships is hampered by the lack of data. More often than not, either the observation itself is difficult or the data is not reliable. Over the last decades, economic experiments have become a vital part of the scientific discourse, facilitating our understanding of the world we live in (much like in Biology, Chemistry, Physics or the like). Economic experiments allow exploring economic behavior under controlled conditions by generating observations under different experimental designs and controlled conditions. Pioneering this field of research, Daniel Kahneman and Vernon Smith were awarded the Nobel memorial prize in recognition of their work on behavioral and experimental economics. In this course, we provide you with the methodology of how to develop a research idea and a proper experimental design that allows to explore this idea. Essentially, you will learn how to think about ideas, generate predictions, and how to use economic experiments to test them.

Introductory Courses

L/R 008. (PHIL008) The Social Contract. (B) Society Sector. All classes. Freeman, Tan.

This is a critical survey of the history of western modern political philosophy, beginning from the Early Modern period and concluding with the 19th or 20th Century. Our study typically begins with Hobbes and ends with Mill or Rawls. The organizing theme of our investigation will be the idea of the Social Contract. We will examine different contract theories as well as criticisms and proposed alternatives to the contract idea, such as utilitarianism. Besides the above, examples of authors we will read are Locke, Rousseau, Hume, Mill and Marx.

L/R 072. (HSOC101, PHIL072) Biomedical Ethics. (M) Society Sector. All classes. Staff.

A survey of moral problems in medicine and biomedical research. Problems discussed include: genetic manipulation, informed consent, infanticide, abortion, euthanasia, and the allocation of medical resources. Moral theory is presented with the aim of enabling students to think critically and analytically about moral issues. The need for setting biomedical issues in broader humanistic perspective is stressed.

SM 073. (PHIL073) Topics in Ethics. (M)

L/R 140. (CIS 140, COGS001) Introduction to Cognitive Science. (A) Staff. Prerequisite(s): An introductory course in Computer Science, Linguistics, Neuroscience, Philosophy or Psychology. This is a Formal Reasoning course.

How do minds work? This course surveys a wide range of answers to this question from disciplines ranging from philosophy to neuroscience. The course devotes special attention to the use of simple computational and mathematical models. Topics include perception, learning, memory, decision making, emotion and consciousness.

Intermediate Courses

030. (ECON030) Public Policy Analysis. (C) Staff. Prerequisite(s): ECON 001 and 002 or ECON 010. Credit cannot be received for both ECON 030 and 231.

This course provides an introduction to the economic method for analyzing public policy questions. It develops the implications of this method for the role of

government in a market economy and for the analysis of specific public projects.

033. (ECON033) Labor Economics. (B) Staff. Prerequisite(s): ECON 001 and 002. Credit cannot be received for both ECON 033 and 233.

The course begins with an extensive discussion of models of labor market demand and supply. The rest of the course addresses a variety of related topics including the school-to-work transition, job training, employee benefits, the role of labor, unions, discrimination, workforce diversity, poverty, and public policy.

034. Economics of Family & Gender. (A) Staff. Prerequisite(s): ECON 001, 002, or 010 and ECON 103.

The course will use economic theory and econometric analysis to explore issues regarding decision making and allocation of resources within the family. The impact of gender roles and differences on economic outcomes will be discussed. We will study some feminist criticism of the economic tools for understanding household allocations and gender differences. The US economy will serve as the reference point though developing countries will also be discussed.

035. (ECON035) Industrial Organization. (C) Staff. Prerequisite(s): ECON 001 or ECON 010. Credit cannot be received for both ECON 035 and 235.

Theories of various industrial organizational structures and problems are developed, including monopoly, oligopoly, moral hazard and adverse selection. These theories are then applied to the study of various industries, antitrust cases, and regulatory issues.

036. (ECON036) Law and Economics. (A) Staff. Prerequisite(s): ECON 001 or ECON 010. Credit cannot be received for both ECON 036 and 234.

The relationship of economic principles to law and the use of economic analysis to study legal problems. Topics will include: property rights and intellectual property; analysis of antitrust and economic analysis of legal decision making.

062. (RUSS189) Soviet & Post-Sov Econ. Vekker.

The course will cover the development and operation of the Soviet centrally planned economy--one of the grandest social experiments of the 20th century. We will review the mechanisms of plan creation, the push for the collectivization and further development of Soviet agriculture, the role of the Soviet educational system and the

performance of labor markets (including forced labor camps--GULags). We will discuss the strengths and weaknesses of the Soviet system and the causes of its collapse. Privatization, called by some "piratization," will be one of the central issues in our consideration of the transition from central planning to a market economy in the early 1990s. Even though our main focus will be on the Soviet economy and post-Soviet transition, we will occasionally look back in time to the tsarist era and even further back to find evidence to help explain Soviet/Russian economic development.

153. (PSYC253) Judgment and Decisions. (C) Staff. Prerequisite(s): One semester of statistics OR microeconomics. An LPS section may be given.

Thinking, judgment, and personal and societal decision making, with emphasis on fallacies and biases.

L/R 225. (PHIL226, PHIL521, STSC128) Philosophy of Biology. (M) Natural Science & Mathematics Sector. Class of 2010 and beyond. Domotor, Spencer, Weisberg.

This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin's formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theory: Richard Dawkins' and Richard Lewontin's. The remainder of the course will deal with a number of foundational issues including adaptation, the units of selections, the evolution of altruism, and the possibility of grounding ethics in evolutionary theory.

232. (ECON232) Political Economy. (B) Staff. Prerequisite(s): ECON 101; MATH 104 and MATH 114 or MATH 115. ECON 103 is recommended.

This course examines the political and economic determinants of government policies. The course presents economic arguments for government action in the private economy. How government decides policies via simple majority voting, representative legislatures, and executive veto and agenda-setting politics will be studied. Applications include government spending and redistributive policies.

L/R 244. (PHIL244) Introduction to Philosophy of Mind. (M) Domotor, Miracchi.

This course will survey several central topics in philosophy of mind, as well as investigating how philosophy of the mind

interacts with scientific study of the mind. Among the questions we'll be asking are: What is it to have a mind? What is the relationship between the mind and the brain? Can there be a science of the mind? What can it tell us? What can philosophy contribute to a science of the mind? What is consciousness? What is it to think, to perceive, to act? How are perception, thought, and action related to one another?

L/R 270. (PSCI271) Constitutional Law: Public Power & Civil Rights to 1912. (C) Smith.

This course explores the creation and transformations of the American constitutional system's structures and goals from the nation's founding through the period of Progressive reforms, the rise of the Jim Crow system, and the Spanish American War. Issues include the division of powers between state and national governments, and the branches of the federal government; economic powers of private actors and government regulators; the authority of governments to enforce or transform racial and gender hierarchies; and the extent of religious and expressive freedoms and rights of persons accused of crimes. We will pay special attention to the changing role of the Supreme Court and its decisions in interpreting and shaping American constitutionalism, and we will also read legislative and executive constitutional arguments, party platforms, and other influential statements of American constitutional thought.

SM 271. (PHIL271) Global Justice. (M) Tan.

This course is an introduction to some of the central problems in global justice. Samples of these topics include: What are our duties to respond to world poverty and what is the basis of this duty? Is global inequality in itself a matter of justice? How universal are human rights? Should human rights defer to cultural claims at all? Is there a right to intervene in another country to protect human rights there? Indeed can intervention to protect human rights ever be a duty? Who is responsible for the environment? We will read some influential contemporary essays by philosophers on these topics with the goal of using the ideas in these papers as a springboard for our own further discussion and analysis.

SM 272. (PHIL272) Ethics and the Professions. (M) Tan. Prerequisite(s): At Least one of PHIL 002, 008, 009 or equivalent.

Since Louise Brown, the first so-called "test tube baby" was born in 1978,

reproductive technologies have generated many new ways to "make" babies. These technologies mean that a number of difficult ethical questions are inescapable, not only for individuals who otherwise couldn't have children (due to biological and/or social constraints) but for the larger society.

This course will consider the prenatal moral status and identity of the fetus. It explores prenatal (and pre-implantation) genetic interventions and their possible effects on the autonomy of the child later in life as well as the possible eugenic implications of such interventions. It examines the potential conflict between a mother's autonomy and an infant's prenatal harm in the larger context created by new kinds of parents and new forms of kinship. Finally, it investigates the market for sperm, eggs, embryos and gestation and reflects on the questions of justice they imply.

275. (PSYC275) Introduction to Political Psychology. (C) Tetlock.

Prerequisite(s): PSYC 001 or COGS 001. NOTE: Students who are more interested in business-related issues may want Wharton 276x which is a modified version of this course specifically for Wharton undergraduates.

This course will explore psychological approaches to understanding political beliefs, attitudes, and actions at the levels of both individual citizens and national leaders. It will also explore the possibility that psychological science itself is not immune to the political debates swirling around it. Specific topics will include: the workings of belief systems (and their power to shape what we "see"), cognitive biases (and their power to cause miscalculations), sacred values and their role in stabilizing belief systems and social interaction, personality and ideology (the linkages between the personal and the political), and clashing conceptions of morality and distributive and corrective justice (striking variations among people in what they consider to be fair). We shall also explore some topics that have sparked controversy in the psychological research literature and that tend to polarize opinion along political lines, including work on intelligence and unconscious bias.

L/R 277. (PHIL277) Justice, Law and Morality. (M) Freeman, Allen.

The course will focus on the philosophical background to the individual rights protected by the U.S. Constitution, including 1st Amendment freedoms of religion, expression, and association; the 14th amendment guarantee of Due Process

and the rights of privacy, abortion, assisted suicide, and marriage; the Equal Protection clause and equal political rights and the legitimacy of affirmative action; and the Takings and Contract clauses and their bearing on rights of private property and economic freedoms. In addition to Supreme Court decisions on these issues, we will read works by political philosophers and constitutional theorists, including J.S. Mill, Ronald Dworkin, Cass Sunstein, Martha Nussbaum, Katherine MacKinnon and others.

Advanced Courses

201. (ECON013) Strategic Reasoning. (A)

Dillenberger. Prerequisite(s): Some high school algebra, ECON 001. This course may NOT be taken concurrently or after Econ 212.

This course is about strategically interdependent decisions. In such situations, the outcome of your actions depends also on the actions of others. When making your choice, you have to think what the others will choose, who in turn are thinking what you will be choosing, and so on. Game Theory offers several concepts and insights for understanding such situations, and for making better strategic choices. This course will introduce and develop some basic ideas from game theory, using illustrations, applications, and cases drawn from business, economics, politics, sports, and even fiction and movies. Some interactive games will be played in class. There will be little formal theory, and the only pre-requisites are some high-school algebra and having taken Econ 1. However, general numeracy (facility interpreting and doing numerical graphs, tables, and arithmetic calculations) is very important. This course will also be accepted by the Economics department as an Econ course, to be counted toward the minor in Economics (or as an Econ elective).

L/R 202. (PSCI236) The Public Policy Process. (A)

Levendusky, Hopkins. This course integrates economic, ethical and political perspectives. It examines competing theories, models, and analytical frameworks for understanding policymaking. The course will focus on: 1. How public problems are framed and described; 2. What criteria are useful in developing and assessing policy choices;

and 3. How policy choices and outcomes are mediated and influenced by individuals, organizations and political institutions.

203. (PSYC265) Behavioral Economics and Psychology. (C)

Bhatia. Prerequisite(s): ECON 001. Prerequisite: ECON 1.

This course will introduce you to the study of choice, and will examine in detail what we know about how people make choices, and how we can influence these choices. It will utilize insights from psychology and economics, and will apply these insights to domains including consumer choice, risky decision making, and prosocial decision making.

L/R 204. (PHIL228) Philosophy of Social Science. (B)

Bicchieri, Weisberg. Prerequisite(s): ECON 001, ECON 002, PHIL 008 and PPE 201.

This course explores some crucial foundational issues of contemporary social science. It focuses on various types of explanation, the construction of social models, and their validation. Specific topics will include: 1. Rational choice models (including game-theoretic ones) and alternative models of bounded rationality; 2. Experimental models in economics and psychology and whether they present a radical departure from traditional economic models; 3. Evolutionary models of the emergence of institutions, and agent-based simulations of such dynamics. In particular, we will explore theoretical and empirical models of trust, reciprocity, cooperation and fairness, asking what motivates individuals to engage in pro-social behavior and how such behavior can emerge and persist. This course will cover some of the material presented in other Core courses, with particular attention to foundational and explanatory issues that are not usually discussed in a typical social science course.

299. Independent Study. (C)

Staff. Student arranges with a faculty member in Philosophy, Economics or Political Science to pursue a program of reading and writing on a suitable topic.

301. Directed Honors Research. (C)

Staff. Open only to senior majors in PPE. Student arranges with a faculty member in Philosophy, Economics or Political Science to do an honors thesis on a suitable topic.

SM 417. (PHIL417) Game Theory. (M)

Bicchieri.

The course will introduce students to non-cooperative game theory and experimental games. The first part of the course will focus on the basic elements of non-cooperative game theory. The second part will cover the experimental literature on social dilemmas, trust and ultimatum games. The format will consist of lectures, student presentations, and discussions.

L/R 421. (PHIL226, PHIL421)

Philosophy of Biology. (M) Domotor, Spencer, Weisberg. Prerequisite(s): Either two philosophy courses or BIOL 101/102 (or equivalent).

This course consists of a detailed examination of evolutionary theory and its philosophical foundations. The course begins with a consideration of Darwin's formulation of evolutionary theory and the main influences on Darwin. We will then consider two contemporary presentations of the theory: Richard Dawkins' and Richard Lewontin's. The remainder of the course will deal with a number of foundational issues including adaptation, the units of selections, the evolution of altruism, and the possibility of grounding ethics in evolutionary theory.

SM 475. (HIST455, PHIL359, PHIL475, PSYC453, PSYC478) Philosophy, Politics and Economics. (C)

Staff. PPE Capstone Seminar. This is an integrative senior seminar (open to others by departmental permission).

The following website will give descriptions of the specific capstone courses that will be offered each semester: <http://www.sas.upenn.edu/ppe/CapstoneCourses/index.html>

SM 476. (PSCI395, PSCI418) Philosophy, Politics and Economics. (C)

Staff. PPE Capstone Seminar. This is an integrative senior seminar (open to others by departmental permission).

The following website will give descriptions of the specific capstone courses that will be offered each semester: <http://www.sas.upenn.edu/ppe/Courses/general>

499. Advanced Research. (M)

Staff. This course may be taken by a PPE student for advanced research. Enrollment by permit only.

PHYSICS (AS) {PHYS}

008. Physics for Architects I. (I)

Physical World Sector. All classes. Prerequisite(s): Entrance credit in algebra and trigonometry. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 091 or 093 who complete PHYS008 will thereby surrender the AP or Transfer Credit.

An introduction to the classical laws of mechanics, including static equilibrium, elasticity, and oscillations, with emphasis on topics most relevant to students in architecture. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 091 or 093 who complete PHYS008 will thereby surrender the AP or Transfer Credit.

009. Physics for Architects II. (J)

Physical World Sector. All classes. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 092 or 094 who complete PHYS008 will thereby surrender the AP or Transfer Credit.

A continuation of PHYS 008 introducing waves, sound, light, fluids, heat, electricity, magnetism, and circuits, with emphasis on topics most relevant to students in architecture. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 092 or 094 who complete PHYS008 will thereby surrender the AP or Transfer Credit.

016. Energy, Oil, and Global Warming. (C)

Natural Science & Mathematics Sector. Class of 2010 and beyond. Prerequisite(s): Algebra and Trigonometry. May be counted as Science Studies for students in Class of 2009 and prior. Target audience: Non-science majors (although science/engineering students are welcome).

The developed world's dependence on fossil fuels for energy production has extremely undesirable economic, environmental, and political consequences, and is likely to be mankind's greatest challenge in the 21st century. We describe the physical principles of energy, its production and consumption, and environmental consequences, including the greenhouse effect. We will examine a

number of alternative modes of energy generation - fossil fuels, biomass, wind, solar, hydro, and nuclear - and study the physical and technological aspects of each, and their societal, environmental and economic impacts over the construction and operational lifetimes. No previous study of physics is assumed.

050. Physics Laboratory I. (C)

Prerequisite(s): AP score of 5 on the Physics B or Physics C - Mechanics exam, or transfer credit for PHYS 91 or PHYS 93. Only for students with above prerequisites. Course carries .5 course unit and student receives grade. Permit required. Only for students with above prerequisites.

Experiments in classical mechanics.

051. Physics Laboratory II. (C)

Prerequisite(s): AP score of 5 on the Physics B or Physics C - Electricity and Magnetism exam, or transfer credit for PHYS 92 or PHYS 94. PHYS 050. Only for students with above prerequisites. Course carries .5 course unit and student receives grade. Permit required. Only for students with above prerequisites.

Experiments in electromagnetism and optics.

L/L 101. General Physics: Mechanics, Heat and Sound. (S)

Physical World Sector. All classes. Prerequisite(s): Entrance credit in algebra and trigonometry, and a background in calculus. Corequisite(s): PHYS 101 LAB. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 101 will thereby surrender the AP or Transfer Credit.

An introduction to the classical laws of motion requiring a background in calculus. Suggested for students in a pre-health program. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 101 will thereby surrender the AP or Transfer Credit.

L/L 102. General Physics: Electromagnetism, Optics, and Modern Physics. (S)

Physical World Sector. All classes. Prerequisite(s): PHYS 101. Corequisite(s): PHYS 102 LAB. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 102 will thereby surrender the AP or Transfer Credit.

A continuation of PHYS 101 emphasizing an introduction to classical electricity and magnetism, relativity theory, optics, and the quantum theory of matter, requiring a background in calculus. Suggested for students in a pre-health program. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 102 will thereby surrender the AP or Transfer Credit.

137. Community Physics Initiative. (A)

This is an Academically Based Community Service Course (ABCS). It will be aligned to the Philadelphia School District curriculum in introductory physics at University City High School (UCHS). The UCHS curriculum roughly parallels the contents of first semester introductory physics (non-calculus) at Penn.

140. Principles of Physics I (without laboratory). (C)

Corequisite(s): MATH 104. For Engineering students whose course of study does not require a physics laboratory course. Those who are enrolled in a dual degree program with the College must register for the lab-based version of this course, PHYS 150.

Classical laws of motions; interactions between particles; conservation laws and symmetry principles; particle and rigid body motion; gravitation, harmonic motion. Engineering students only.

L/R 141. Principles of Physics II (without laboratory). (S)

Prerequisite(s): PHYS 140. Corequisite(s): MATH 114. For Engineering students whose course of study does not require a physics laboratory course. Those who are enrolled in a dual degree program with the College must register for the lab-based version of this course, PHYS 151.

Electric and magnetic fields; Coulomb's, Ampere's, and Faraday's laws; Maxwell's equations; emission, propagation, and absorption of electromagnetic radiation; interference, reflection, refraction,

scattering, and diffraction phenomena. Engineering students only.

L/L 150. Principles of Physics I: Mechanics and Wave Motion. (C)

Physical World Sector. All classes. Prerequisite(s): Math 104 is a pre-req. Corequisite(s): PHYS 150 LAB. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 150 will thereby surrender the AP or Transfer Credit.

This calculus-based course is recommended for science majors and engineering students. Classical laws of motion; interactions between particles; conservation laws and symmetry principles; particle and rigid body motion; gravitation, harmonic motion. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, PHYS 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 150 will thereby surrender the AP or Transfer Credit.

L/L 151. Principles of Physics II: Electromagnetism and Radiation. (S)

Physical World Sector. All classes. Prerequisite(s): PHYS 150 or PHYS 170, Math 114 is a pre-req. Corequisite(s): PHYS 151 LAB. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 151 will thereby surrender the AP or Transfer Credit.

The topics of this calculus-based course are electric and magnetic fields; Coulomb's, Ampere's, and Faraday's laws; Maxwell's equations; emission, propagation, and absorption of electromagnetic radiation; interference, reflection, refraction, scattering, and diffraction phenomena. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 151 will thereby surrender the AP or Transfer Credit.

SM 170. Honors Physics I: Mechanics and Wave Motion. (A)

Physical World Sector. All classes. Prerequisite(s): MATH 104 or permission of the instructor. Corequisite(s): MATH 114 or permission of instructor. Benjamin Franklin Seminar. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 170 will thereby surrender the AP or Transfer Credit.

This course parallels and extends the content of PHYS 150, at a significantly higher mathematical level. Recommended for well-prepared students in engineering and the physical sciences, and particularly for those planning to major in physics. Classical laws of motion: interaction between particles; conservation laws and symmetry principles; rigid body motion; noninertial reference frames; oscillations. Credit is awarded for only one of the following courses: PHYS 008, PHYS 101, 150, or PHYS 170. Students with AP or Transfer Credit for PHYS 91 or PHYS 93 who complete PHYS 170 will thereby surrender the AP or Transfer Credit.

SM 171. Honors Physics II: Electromagnetism and Radiation. (B)

Physical World Sector. All classes. Prerequisite(s): MATH 114 and PHYS 150 or PHYS 170, or permission of instructor. Corequisite(s): MATH 240 or permission of instructor. Benjamin Franklin Seminar. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 171 will thereby surrender the AP or Transfer Credit.

This course parallels and extends the content of PHYS 151, at a somewhat higher mathematical level. Recommended for well-prepared students in engineering and the physical sciences, and particularly for those planning to major in physics. Electric and magnetic fields; Coulomb's, Ampere's, and Faraday's laws; special relativity; Maxwell's equations, electromagnetic radiation. Credit is awarded for only one of the following courses: PHYS 009, PHYS 102, PHYS 151, or PHYS 171. Students with AP or Transfer Credit for PHYS 92 or PHYS 94 who complete PHYS 171 will thereby surrender the AP or Transfer Credit.

230. Principles of Physics III: Thermal Physics and Waves. (A)

Prerequisite(s): PHYS 150/151 or PHYS 170/171 and MATH 104, MATH 114 or 116. Corequisite(s): MATH 240.

Elementary thermodynamics and statistical physics including heat engines and the Maxwell-Boltzmann distribution, independent and forced harmonic motion, coupled oscillators, normal modes, longitudinal and transverse sound and light waves, interference and diffraction, and elementary Fourier analysis and the uncertainty principle.

240. Principles of Physics IV: Modern Physics (without laboratory). (B)

Prerequisite(s): PHYS 151 or 171. Corequisite(s): MATH 240.

Special relativity, an introduction to the principles of quantum mechanics, properties of electrons, protons, neutrons, and the elements of atomic structure and nuclear structure. Electromagnetic radiation and photons; interaction of photons with electrons, atoms, and nuclei.

L/L 250. Principles of Physics IV: Modern Physics. (B)

Prerequisite(s): PHYS 150/151 or PHYS 170/171.

Corequisite(s): MATH 240. PHYS 250 students take a two-hour lab.

Special relativity, an introduction to the principle of quantum mechanics, properties of electrons, protons, neutrons, and the elements of atomic structure and nuclear structure. Electromagnetic radiation and photons; interaction of photons with electrons, atoms, and nuclei.

280. (BCHE280) Physical Models of Biological Systems. (A) Prerequisite(s): PHYS 101 (or higher), MATH 104-MATH 114 or MATH 104-MATH 115 or MATH 116. Recommended: previous or concurrent PHYS 102; basic background in chemistry and biology.

Classic case studies of successful reductionistic models of complex phenomena, emphasizing the key steps of making estimates, using them to figure out which physical variables and phenomena will be most relevant to a given system, finding analogies to purely physical systems whose behavior is already known, and embodying those in a mathematical model, which is often implemented in computer code. Topics may include bacterial genetics, genetic switches and oscillators; systems that sense or utilize light; superresolution and other new microscopy methods; and vision and other modes of sensory transduction.

299. Independent Study. (C) Repetitive credit.

Special projects and independent study under the direction of faculty member.

L/R 314. (ENVS312, ENVS640) Ocean-Atmosphere Dynamics and Implications for Future Climate Change. Marinov. Prerequisite(s): MATH 114 or permission of the instructor.

This course covers the fundamentals of atmosphere and ocean dynamics, and aims to put these in the context of climate change in the 21st century. Large-scale atmospheric and oceanic circulation, the global energy balance, and the global hydrological cycle. We will introduce concepts of fluid dynamics and we will apply these to the vertical and horizontal motions in the atmosphere and ocean. Concepts covered include: hydrostatic law, buoyancy and convection, basic equations of fluid motions, Hadley and Ferrel cells in the atmosphere, thermohaline circulation, Sverdrup ocean flow, modes of climate variability (El-Nino, North Atlantic Oscillation, Southern Annular Mode). The course will incorporate student led discussions based on readings of the 2007 Intergovernmental Panel on Climate Change (IPCC) report and recent literature on climate change. Aimed at undergraduate or graduate students who have no prior knowledge of meteorology or oceanography or training in fluid mechanics. Previous background in calculus and/or introductory physics is helpful. This is a general course which spans many subdisciplines (fluid mechanics, atmospheric science, oceanography, hydrology).

351. Analytical Mechanics. (B)
Prerequisite(s): PHYS 150/151 or PHYS 170/171, MATH 104/114, and MATH 240, or permission of instructor.

An intermediate course in the statics and dynamics of particles and rigid bodies. Lagrangian dynamics, central forces, non-inertial reference frames, and rigid bodies.

361. (PHYS561) Electromagnetism I: Electricity and Potential Theory. (A)
Prerequisite(s): PHYS 151 or 171, and MATH 241.

An intermediate course. Electrostatic fields and potentials, dielectrics, and direct currents.

362. (PHYS562) Electromagnetism II: Magnetism, Maxwell's Equations, and Electromagnetic Waves. (B)

Prerequisite(s): PHYS 361.

A continuation of PHYS 361. Magnetic fields and potentials, electromagnetic induction, Maxwell's equations, electromagnetic waves, and radiation.

364. (PHYS564) Laboratory Electronics. (A)

Prerequisite(s): Familiarity with electricity and magnetism at the level of PHYS 102, 141, 151 or 171.

A laboratory-intensive survey of analog and digital electronics, intended to teach students of physics or related fields enough electronics to be comfortable learning additional topics on their own from a reference such as Horowitz and Hill. Specific topics will vary from year to year from the selection of topics listed below. Analog topics may include voltage dividers, impedance, filters, operational amplifier circuits, and transistor circuits. Digital topics may include logic gates, finite-state machines, programmable logic devices, digital-to-analog and analog-to-digital conversion, and microcomputer concepts. Recommended for students planning to do experimental work in physical science.

401. (PHYS581) Thermodynamics and the Introduction to Statistical Mechanics and Kinetic Theory. (A)

Prerequisite(s): PHYS 240 or 250.

Temperature, entropy and generalized potentials, phase transitions, and introduction to ensemble theory and distribution functions.

411. (PHYS511) Introduction to Quantum Mechanics I. (A)

Prerequisite(s): PHYS 150 or 170, 240 or 250, and MATH 241.

An introduction to the principles of quantum mechanics designed for physics majors and graduate students in physics-related disciplines. The Schrodinger equation operator formalism, central field problem, angular momentum, and spin. Application to one-dimensional and central field problems.

412. (PHYS512) Introduction to Quantum Mechanics II. (B)

Prerequisite(s): PHYS 411.

Perturbation theory, variational principle, application of the quantum theory to atomic, molecular, and nuclear systems, and their interaction with radiation.

414. (PHYS521) Laboratory in Modern Physics. (B) Prerequisite(s): PHYS 411.

Supervised experiments in modern physics.

421. (PHYS529) Modern Optics. (J)

Prerequisite(s): PHYS 240 or 250 and 362, or permission of instructor.

Interaction of light with matter.

Interference and diffraction, absorption and dispersion, stimulated emission and coherence, spectroscopy, non-linear processes.

433. Order of Magnitude Physics. (C)

Prerequisite(s): Prerequisites: PHYS 411 or permission from instructor.

This course focuses on the art of estimating physical quantities to within the nearest factor of ten. Problem solving techniques such as dimensional analysis and scaling relations will be covered and applied to a wide range of topics including fluid mechanics, waves and sound, atomic physics, material properties, astrophysics, everyday life, and more. The course is intended for advanced undergraduate students.

499. Senior Honor Thesis. (C)

Prerequisite(s): PHYS 412 and 414.

Experimental and theoretical research projects in various areas of physics planned by student in consultation with a member of faculty. A written thesis and an oral presentation and defense are required.

500. (MATH594) Mathematical Methods of Physics. (A)

A discussion of those concepts and techniques of classical analysis employed in physical theories. Topics include complex analysis. Fourier series and transforms, ordinary and partial equations, Hilbert spaces, among others.

501. Introduction to Research. (C)

Taken by all first-year graduate students. This is a required seminar that does not carry credit or a grade.

Introduction to research in particle, nuclear, condensed matter and astrophysics. Selected current topics from journals.

503. General Relativity. (C)

This is a graduate level, introductory course in general relativity. The basics of general relativity will be covered with a view to understanding the mathematical background, the construction of the theory, and applications to the solar system, black holes, gravitational waves and cosmology. The latter part of the course will cover some of the basic modern topics in modern

cosmology, including the current cosmological model, the accelerating universe, and open questions driving current research.

505. Introduction to Cosmology. (M)

Prerequisite(s): Graduate standing in physics or permission of instructor.

Introduction to physical cosmology emphasizing recent ideas on the very early evolution of the universe. The course will introduce standard big bang cosmology, new theories of the very early universe, and the key observations that have tested and will be testing these ideas. No prior knowledge of astrophysics, cosmology, general relativity, or particle physics will be assumed, although aspects of each will be introduced as part of the course. The course is intended for graduate students and advanced undergraduates.

516. Electromagnetic Phenomena. (B)

Survey of electrodynamics, focusing on applications to research done in the Department. Topics include mathematical structure and relativistic invariance properties of Maxwell equations, tensor methods, and the generation and scattering of radiation, in vacuum and in materials. Applications vary from year to year but include optical manipulation, astrophysical phenomena, and the generalizations from Maxwell's theory to those of other fundamental interactions (strong, electroweak, and gravitational forces).

517. Particle Cosmology. (C)

This introduction to cosmology will cover standard big bang cosmology, formation of large-scale structure, theories of the early universe and their observational predictions, and models of dark energy. It is intended for graduate students or advanced undergraduates. No prior knowledge of general relativity or field theory will be assumed, although aspects of each will be introduced as part of the course.

518. Introduction to Condensed Matter Physics. (B) Prerequisite(s):

Undergraduate training in quantum mechanics and statistical thermodynamics.

An introduction to condensed matter physics designed primarily for advanced undergraduate and graduate students desiring a compact survey of the field. Band theory of solids, phonons, electrical magnetic and optical properties of matter, and superconductivity.

521. (PHYS414) Advanced Laboratory. (B)

Directed experiments in classical and modern physics designed to acquaint the student with modern laboratory instrumentation and techniques.

522. Introduction to Elementary Particle Physics. (M) Prerequisite(s):

Permission of instructor required.

An introduction to elementary particles (photons, leptons, hadrons, quarks), their interactions, and the unification of the fundamental forces.

525. Special Projects. (C) Repetitive credit.

Special projects under the direction of a faculty member.

526. Astrophysical Radiation. (H)

This is a course on the theory of the interaction of light and matter designed primarily for graduate and advanced undergraduate students to build the basic tools required to do research in astrophysics. Topics to be discussed include structure of single- and multi-electron atoms, radiative and collisional processes, spectral line formation, opacity, radiation transfer, analytical and numerical methods, and a selection of applications in astrophysics based on student research interest.

528. Introduction to Liquid Crystals. (C)

Overview of liquid crystalline phases, their elasticity, topology, and dynamics.

530. Modern Optical Physics and Spectroscopy. (K) Prerequisite(s):

Working knowledge of electricity and magnetism and quantum mechanics. Graduate level course designed for beginning or intermediate graduate students in physics, but it is likely to be of use to a broader community including beginning graduate students whose research involves light scattering in electrical engineering, chemistry, and biophysics, and advanced undergraduates.

Introduction to contemporary optics. Topics include propagation and guiding of light waves, interaction of electromagnetic radiation with matter, lasers, non-linear optics, coherent transient phenomena, photon correlation spectroscopies and photon diffusion.

531. Quantum Mechanics I. (A)

Prerequisite(s): A minimum of one semester of quantum mechanics at the advanced undergraduate level.

Wave mechanics, complementarity and correspondence principles, semi-classical (WKB) approximation, bound state techniques, periodic potentials, angular momentum, scattering theory, phase shift analysis, and resonance phenomena.

532. Quantum Mechanics II. (B)

Prerequisite(s): PHYS 531.

Spin and other two dimensional systems, matrix mechanics, rotation group, symmetries, time independent and time dependent perturbation theory, and atomic and molecular systems.

533. Topics in Cosmology. (M)

This course aims to survey three or four topics of current research interest in cosmology, mostly at the level of review articles. The topics will be covered in greater depth and with more connections to ongoing research than the introductory cosmology course, ASTR 525. The course will be largely accessible to first and second year graduate students. Some exposure to cosmology and general relativity will be helpful but the first two weeks will attempt to bridge that gap. The topic selection will be done in part with input from the students. For the Fall 2009 semester, Dark Energy will be the first topic, Nonlinear Dynamics the likely second topic and Gravitational Lensing (focus on strong lensing) is a possible third topic. A few short problem sets and a presentation/write-up on a topic of interest, based on a review article or selected papers, will make up the course requirement.

SM 535. (BIOL535) Topics in Theory of Living Systems. (M) Kim, Goulian,

Akçay, Balasubramanian, Raj, Mossel. Prerequisite(s): Permission of instructor.

The goal of this course is to discuss broad conceptual theories that address complex phenomena of living systems. Example questions include: what is the molecular architecture of information processing in cells and developing organisms? What is the functional architecture of cooperative organization from molecules in a cell to whole organism social interactions? How is complex multi-factorial information represented in organisms? The course will meet once a week and students will research relevant papers, lead discussions, and generate synopsis of group discussions. At the end of the semester, faculty and students are expected to co-author a review report of the discussed topics.

564. (PHYS364) Laboratory Electronics. (A)

A laboratory-intensive survey of analog and digital electronics, intended to teach students of physics or related fields enough electronics to be comfortable learning additional topics on their own from a reference such as Horowitz and Hill. Specific topics will vary from year to year from the selection of topics listed below. Analog topics may include voltage dividers, impedance, filters, operational amplifier circuits, and transistor circuits. Digital topics may include logic gates, finite-state machines, programmable logic devices, digital-to-analog and analog-to-digital conversion, and microcomputer concepts. Recommended for students planning to do experimental work in physical science.

580. (BCHE580) Biological Physics. (M)

Prerequisite(s): MATH 240 and MATH 241 (or equivalent preparation), PHYS 401 or familiarity with statistical mechanics and thermodynamics. Recommended: Basic background in biology.

The course will explore the basic physical principles behind the structure and function of life across many length and time scales (molecule, cell, organism, population). Emphasis will be given on overarching physical themes such as entropy and biological noise, and how they affect the organization of living matter and its emergent properties. Topics may include biopolymers and single molecule biophysics, molecular motors, gene and transcription networks, pattern formation in biological systems, phyllotaxis, neural computing and evolution.

581. (PHYS401) Thermodynamics. (A)**582. (BE 580) Medical Radiation Engineering. (A)**

This course in medical radiation physics investigates electromagnetic and particulate radiation and its interaction with matter. The theory of radiation transport and the basic concept of dosimetry will be presented. The principles of radiation detectors and radiation protection will be discussed.

585. (BE 530, BIBB585, NGG 594, PSYC539) Theoretical and Computational Neuroscience. (B)

This course will develop theoretical and computational approaches to structural and functional organization in the brain. The course will cover: (i) the basic biophysics of neural responses, (ii) neural coding and decoding with an emphasis on sensory systems, (iii) approaches to the study of networks of neurons, (iv) models of adaptation, learning and memory, (v) models of decision making, and (vi) ideas that address why the brain is organized the way that it is. The course will be appropriate for advanced undergraduates and beginning graduate students. A knowledge of multi-variable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.

601. Introduction to Field Theory. (A)

Elementary relativistic quantum field theory of scalar, fermion, and Abelian gauge fields. Feynman Diagrams.

611. Statistical Mechanics. (A)

Prerequisite(s): PHYS 401, 531, or equivalent.

Introduction to the canonical structure and formulation of modern statistical mechanics. The thermodynamic limit. Entropic and depletion forces. Gas and liquid theory. Phase transitions and critical phenomena. The virial expansion.

Quantum statistics. Path integrals, the Fokker-Planck equation and stochastic processes.

612. Advanced Statistical Mechanics. (M) Prerequisite(s): PHYS 611 or equivalent.

In depth study of classical and quantum lattice spin models, perturbation techniques, and the renormalization group.

622. Introduction to Elementary Particle Physics. (M) Prerequisite(s): PHYS 601.

Introduction to the phenomenology of elementary particles, strong and weak interactions, symmetries.

632. Relativistic Quantum Field Theory. (M) Prerequisite(s): PHYS 601.

Advanced topics in field theory, including renormalization theory.

633. Relativistic Quantum Field Theory. (M) Prerequisite(s): PHYS 632.

A continuation of PHYS 632, dealing with non-Abelian gauge theories.

661. Solid State Theory I. (M)

This course is intended to be an introductory graduate course on the physics of solids, crystals and liquid crystals. There will be a strong emphasis on the use and application of broken and unbroken symmetries in condensed matter physics. Topics covered include superconductivity and superfluidity.

662. Solid State Theory II. (M)

A continuation of PHYS 661.

696. Advanced Topics in Theoretical Physics. (M)**990. Masters Thesis. (C)****995. Dissertation. (C)****999. Independent Study. (C)**

POLITICAL SCIENCE (AS) {PSCI}

SM 009. (WRIT076) Critical Writing Seminar in Political Science. (M) Staff.

This is a critical writing seminar. It fulfills the writing requirement for all undergraduates. As a discipline-based writing seminar, the course introduces students to a topic within its discipline but throughout emphasizes the development of critical thinking, analytical, and writing skills. For current listings and descriptions, visit the Critical Writing Program's website at <http://writing.upenn.edu/critical>.

SM 010. (AFRC010, LALS107) Freshman Seminars. (C) Staff.

Freshmen seminars are small, substantive courses taught by members of the faculty and open only to freshmen. These seminars offer an excellent opportunity to explore areas not represented in high school curricula and to establish relationships with faculty members around areas of mutual interest. See www.college.upenn.edu/admissions/freshmen.php

L/R 105. The Study of Politics. (C) Society Sector. All classes. Staff.

This course introduces fundamental political questions, including the nature of political authority and political rights, the relationship between power and values, variation in the role and quality of government, origins of political institutions, and dynamics of international politics. Substantial consideration is given to contributions by classical political thinkers as well as contemporary political scientists. Attention is also paid to how the systematic study of politics -- American politics, comparative politics, international politics and political philosophy -- can deepen our understanding of complex public policy questions.

L/R 110. (PSCI412) Introduction to Comparative Politics. (C) Society Sector. All classes. Staff.

This course is designed to introduce students to comparative political analysis. How can the political behavior, circumstances, institutions, and dynamic patterns of change that people experience in very different societies be analyzed using the same set of concepts and theories? Key themes include nationalism, political culture, democratization, authoritarianism, and the nature of protracted conflict.

SM 113. (PSYC251) INTRO TO DECISION THEORY. (M)

115. Comparative Western European Politics. (C) Kennedy.

Comparative analysis of the political systems of Britain, France and West Germany, focusing on the making and implementation of public policy.

L/R 116. Political Change in the "Third World". (C) Society Sector. All classes. Sil.

This is a comparative politics course that examines political and socio-economic change in the so-called "Third World," defined here as post-colonial developing areas in Asia, Africa and Latin America. The course is not as concerned with keeping up with current events as with analyzing the relationships between colonial legacies, the initial challenges of post-colonial political and socioeconomic development, and how these interact with contemporary problems and global trends. Although chiefly concerned with "political change" within countries, it will also devote substantial attention to economic, socio-cultural and international factors. The course is divided into three parts. The first examines the common and distinctive features of colonial rule in different regions as well as the varying challenges of political and economic development in diverse post-colonial settings. The second part focuses on elaborating on the themes developed in the first by looking more closely at the developmental experiences of Brazil, India, Algeria, Iran, Nigeria, and South Korea (with passing references to other countries as comparative referents). The third part focuses on trends and challenges that have emerged over the last two decades - including market reforms, democratization, and problems related to gender and the environment -

L/R 130. Introduction to American Politics. (C) Society Sector. All classes. Staff.

This course is intended to introduce students to the national institutions and political processes of American government. What are the historical and philosophical foundations of the American Republic? How does American public policy get made, who makes it, and who benefits? Is a constitutional fabric woven in 1787 good enough for today? How, if at all, should American government be changed, and why? What is politics and why bother to study it? If these sorts of questions interest you, then this course will be a congenial home. It is designed to explore such questions while teaching

students the basics of American politics and government.

L/R 131. American Foreign Policy. (C) Horowitz, Vitalis.

This course analyzes the formation and conduct of foreign policy in the United State. The course combines three elements: a study of the history of American foreign relations; an analysis of the causes of American foreign policy such as the international system, public opinion, and the media; and a discussion of the major policy issues in contemporary U.S. foreign policy, including terrorism, civil wars, and economic policy.

L/R 133. (PPE 202) Introduction to African American Politics. (A) Staff.

This course is designed to provide an introduction to contemporary African American politics. We will examine how the underlying theory and structure of American political institutions affect African Americans' efforts to organize for effective political action. We will also analyze some of the political behaviors and strategies utilized by African Americans as they seek to impact the political system.

134. United States Political Parties. (B) Staff.

This course is an analysis of parties in the United States, with special attention to democratic theory, the electoral process, electronic media, as well as political organizations and their influence on government decisions.

SM 135. (GAFL135, HSOC135) The Politics of Food and Agriculture. (M) Summers.

Students will use course readings and their community service to analyze the institutions, ideas, interests, social movements, and leadership that shape the "politics of food" in different arenas. Service opportunities include work with the Urban Nutrition Initiative, Community School Student Partnerships, and the possibility of other placements as approved by the professors.

136. (AFRC136, URBS136) Urban Politics in the United States. (B) Society Sector. All classes. Reed.

This course explores the political character of contemporary urban American life. Particular attention is given to the relationship between urban politics and policymaking -- including the structural and ideological factors (e.g., dynamics of political economy, race, ethnicity, pluralism and gender) that constrain the policy context and shape the urban

environment as a terrain for commingling, competition and conflict over uses of space. It makes considerable use of case studies to throw into relief the complex and sometimes subtle processes that shape urban life.

SM 138. (GAFL138) Policymaking in the US. (A) Martinez.

This course is an opportunity for students to combine the major theoretical perspectives on the policy process with practical application to current policy issues. Students will gain the theoretical tools to explain policy change, a comprehensive understanding of the actors that influence policymaking and politics, an overview of the major policy issues being debated, and experience writing policy documents.

SM 139. (GAFL139, HSOC139, URBS137) Politics Of Poverty & Development. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Summers.

This academically based community service seminar will explore the ideas and theories, alliances and opposition that have shaped policy and organizing efforts addressed to the problems associated with urban poverty in the United States. There will be a special focus on the issues of increasing inequality, education, low wage work, health and nutrition, welfare reform and social security. Students will evaluate contemporary policy debates and programs in the light of selected case studies, readings, and their own experience working with community groups, institutions, and federal programs in West Philadelphia.

144. (EUR153, RUSS134) COMMUNISM. (M)

L/R 150. Introduction to International Relations. (C) Society Sector. All classes. Mansfield, Stanton.

This course is an introduction to the major theories and issues in international politics. The goals of the course are to give students a broad familiarity with the field of international relations, and to help them develop the analytical skills necessary to think critically about international politics. The course is divided into four parts: 1) Concepts and Theories of International Relations; 2) War and Security; 3) The Global Economy; and 4) Emerging Issues in International Relations.

L/R 151. International Security. (C) Goldstein.

This lecture course introduces students to the subfield of international security or

strategic studies. In order to grasp the usefulness of the theoretical ideas presented in readings and lectures, abstract concepts are linked with a study of the national security policies states have adopted in the decades following World War II. Topics include current debates about nuclear proliferation, terrorism, the Iraq war, Europe's changing international role, the rise of China, Asian "flashpoints" (Korea, the Taiwan Strait), and US security policy for the 21st century - considering some of the main strategic alternatives to the US as well as their implications for the types of forces deployed (the impact of the "revolution in military affairs," the future of missile defense, and the economic burden to be shouldered).

L/R 152. International Political Economy. (M) Gray.

This course examines the politics of international economic relations. The course will analyze the interplay between politics and economics in three broad areas: international trade, international finance, and economic development. In each section, we will first discuss economic theories that explain the causes and consequences of international commerce, capital flows, and economic growth. We will then explore how political interests, institutions, and ideas alter these predictions, examining both historical examples and current policy debates.

L/R 153. International Law & Institutions. (C) Stanton.

This lecture course examines the role that international law and institutions play in international relations. The course begins by exploring broad theoretical questions - questions about why states create international law and international institutions; how states design institutions; the impact that institutional design may have on the effectiveness of international institutions; and the conditions under which states are likely to comply with the rules set out by international institutions and the dictates of international law. Specific topics include collective security institutions such as the League of Nations, the United Nations, and NATO; human rights law; the laws of war; international intervention and peacekeeping; international justice and the International Criminal Court; environmental law; international trade law and the World Trade Organization; economic development and the World Bank; and international finance and the role of the International Monetary Fund.

L/R 154. Politics of Global Environment. (C) Staff.

This course explores the emerging politics of global ecological decay and restoration occurring at the individual, local, nation-state, and international levels.

SM 156. Terrorism. (C) Staff.

This course is designed to stimulate an interest in the philosophy and methods of terrorism; to illustrate the varieties of conditions under which methods of terrorism are used; to outline the institutional conditions which permit and support the use of terrorism; and to understand the problems involved in "solving" the terrorism dilemma.

L/R 180. (CLST185) Ancient Political Thought. (M) History & Tradition Sector. All classes. Kennedy, Norton.

Through reading texts of Plato (Socrates), Aristotle, Augustine and Aquinas, the student encounters a range of political ideas deeply challenging to--and possibly corrosive of--today's dominant democratic liberalism. Can classical and medieval thinking offer insight into modern impasses in political morality? Is such ancient thinking plausible, useful, or dangerous?

L/R 181. (PSCI681) Modern Political Thought. (M) History & Tradition Sector. All classes. Hirschmann, Kennedy, Norton.

This course will provide an overview of major figures and themes of modern political thought. We will focus on themes and questions pertinent to political theory in the modern era, particularly focusing on the relationship of the individual to community, society, and state. Although the emergence of the individual as a central moral, political, and conceptual category arguably began in earlier eras, it is in the seventeenth century that it takes firm hold in defining the state, political institutions, moral thinking, and social relations. The centrality of "the individual" has created difficulties, even paradoxes, for community and social relations, and political theorists have struggled to reconcile those throughout the modern era. We will consider the political forms that emerged out of those struggles, as well as the changed and distinctly "modern" conceptualizations of political theory such as freedom, responsibility, justice, rights and obligations, as central categories for organizing moral and political life.

L/R 182. Contemporary Political Thought. (A) Green, Hirschmann.

This course is intended as a general introduction to political theory since 1900, examining prominent theorists of politics

including Max Weber, Hannah Arendt, Carl Schmitt, Isaiah Berlin, Jürgen Habermas, John Rawls, Michel Foucault, and Jacques Derrida. Our theme for the Fall 2012 course will be: The Disenchantment of the World? Topics include: the nature of the political and the concern, particular to the last century, that politics is itself under attack; the spread of liberal democracy across the globe and a critical appraisal of the moral meaning of this regime; contemporary theories of social justice; and an exploration of various issues pertaining to violence and the politics of security.

L/R 183. American Political Thought. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Norton.

Whether America begins with the Puritans and the Mayflower Compact, or with the Declaration of Independence and the Revolution, it is founded in resistance to empire. In the generations between, Americans have desired, dreaded and debated empire. This course will focus on empire and imperialism in American political thought. We will read primary texts addressing empire: from the departure and dissent of the Puritans, and Burke's Speech on Conciliation with the Colonies, to twentieth and twenty-first century debates over America's role in the world. These texts will include political pamphlets and speeches, poetry, novels, policy papers and film.

SM 198. Selected Topics in Political Science. (C) Staff.

Consult department for detailed descriptions. More than one course may be taken in a given semester. Recent titles have included: The Analysis of Presidential Elections, Conservative Political Economy, and Political Geography.

L/R 201. Politics, Society and Social Science. (A) DiIulio.

Everyday human behavior poses puzzles that political scientists, economists, sociologists, and other social scientists have attempted to answer. Often their respective answers or "theories" differ widely; and sometimes even their most widely agreed-upon answers seem to defy common sense or ask us to believe in highly improbable findings. This new lecture course familiarizes students with different approaches to understanding politics, society, and social science in relation to everyday questions, intriguing puzzles, and improbable findings about human behavior. It focuses on contemporary American politics and society, and draws mainly on literatures featuring work by leading U.S.

social scientists. In addition, the course explores the conceptual boundaries between the political, social, and economic domains in which people interact with one another; the differences among and between different much-acclaimed models for understanding human behavior; and the philosophical underpinnings and moral implications associated with schools of thought about how best to describe, analyze, and evaluate what people do--and why they do it!

204. Political Participation. (A) Gillion.

The course offers a broad understanding of the political tactics citizens implement to voice their policy preferences to government. This course introduces students to the mode, scope, and theoretical perspectives of political engagement. Analyzing political behavior that ranges from voting behavior to political protest, the course will address a variety of questions: Who engages in politics and why? What are the individual factors that hinder or facilitate engagement in the political arena? How have citizens political actions changed over time? While the course will mainly focus on the United States setting, it does offer a comparative perspective by considering political engagement in non-democratic regimes.

210. (AFRC257, AFST257) Contemporary African Politics. (C) Grossman.

This class provides an introduction to contemporary African politics. The core questions that motivate the course are (i) to what extent are political outcomes in contemporary Africa a consequence of its history, culture and geography? (ii.) Why are state structures and institutions weaker in Africa than elsewhere? (iii.) What accounts for Africa's relatively slow economic growth? (iv.) Why have some African countries been plagued by high levels of political violence while others have not? (v.) What explains the behavior of key African actors: parties or politicians?

L/R 211. (JWST211) Politics in the Contemporary Middle East. (C) Vitalis or Lustick.

This course is an introduction to the most prominent historical, cultural, institutional, and ideological features of Middle Eastern politics. Typical of the questions we shall address are why processes of modernization and economic change have not produced liberal democracies, why Islamic movements have gained enormous strength in some countries and not others,

why conflicts in the region--between Israel and the Arabs, Iran and Iraq, or inside of Lebanon--have been so bitter and protracted; why the era of military coups was brought to an end but transitions to democracy have been difficult to achieve; why Arab unity has been so elusive and yet so insistent a theme; and why oil wealth in the Gulf, in the Arabian Peninsula, and in North Africa, has not produced industrialized or self-sustaining economic growth.

L/R 212. (EALC159, EALC559, PSCI512) Japanese Politics. (M) Amyx.

This course examines the politics and policies of contemporary Japan, applying a range of theoretical perspectives to analyze both recent history and current events. We will survey the core political institutions of the postwar era, examine patterns of political interaction, and investigate current debates over policy. The 1990s have been marked by political change at many different levels in Japan and the course will investigate the significance of these changes, as well as enduring continuities. Recent changes have included the introduction of a new electoral system, shift from one party rule to coalition government rule, breaking the bureaucracy, a financial crisis and prolonged economic stagnation. In the latter part of the course, we will focus in particular on the puzzle of how Japan's political economic structures and policies could have proven so successful for so long and yet so distasteful of late. Throughout the course, students will be encouraged to think about Japanese politics in a comparative context and to consider the functioning of the Japanese political system in the context of more theoretical debates in political science.

L/R 213. (LALS213) Latin American Politics. (C) Falletti.

This course examines the dynamics of political and economic change in twentieth century Latin America, with the goal of achieving an understanding of contemporary politics in the region. We will analyze topics such as the incorporation of the region to the international economy and the consolidation of oligarchic states (1880s to 1930s), corporatism, populism, and elicit pacts (1930s and 1940s), social revolution, democratic breakdown, and military rule (1960s and 1970s), transitions to democracy and human rights advocacy (1980s), market-oriented reforms (1990s), and the turn to the left of current governments (2000s). The course will draw primarily from the experiences of

Argentina, Brazil, Colombia, Chile and Mexico. No prior knowledge of the region is required.

L/R 214. (EALC104, EALC504, PSCI514) Political Economy of East Asia. (M) Wang, Amyx.

This course examines the interplay between politics and economics in East Asia. A major course objective is to reconcile the region's past success with the difficulties experienced in many of these countries more recently. Another primary objective is to consider in what ways and to what degree the growth experiences of the high-performing economies in East Asia shed light on the prospects for long-term success of reforms currently underway in China and Vietnam. The first half of the course begins by exploring the causes and consequences of the rise of industrial Asia. The second half of the course examines the challenges to sustained growth faced by many countries in this region in recent years. The course concludes by examining the challenges faced by China and Vietnam today in their attempt to embrace more market-oriented economic systems.

L/R 215. The European Union. (M) O'Leary.

This lecture course, after introductory sessions which outline the EU's core institutions, is built on an exposition of the works of major thinkers who have reflected on the European Union's origins, outcomes and significance. It critically reviews their arguments, especially their relevance to major recent crises, notably: the failure of the European Constitution, the current crisis of credibility facing the Euro. Whether the European Union is a confederation, a federation, an empire, or a novel political formation shall be examined. Whether its recent major widening signals an end to its institutional deepening will be discussed. Whether the Union has "a democratic deficit" is examined, as is the claim that in external relations it represents a novel form of soft power.

216. Government and Politics of East Asia. (C) Staff.

The course will examine the relationship between culture, state, and economy of Japan, North Korea, and South Korea. It will also analyze the nature and workings of political institutions (including political parties and bureaucracy).

L/R 217. (PSCI517, RUSS217) Russian Politics. (B) Sil.

This course will present an in-depth examination of political, economic and

social change in post-Soviet Russia within a historical context. After a brief discussion of contemporary problems in Russia, the first half of the course will delve into the rise of communism in 1917, the evolution of the Soviet regime, and the tensions between ideology and practice over the seventy years of communist rule up until 1985. The second part of the course will begin with an examination of the Gorbachev period and the competing interpretations of how the events between 1985 and 1991 may have contributed to the collapse of the Soviet Union. We will then proceed to make sense of the continuities and changes in politics, economics and society in contemporary Russia. Important topics will include the confrontations accompanying the adoption of a new constitution, the emergence of competing ideologies and parties, the struggle over economic privatization, the question of federalism and nationalism, social and political implications of economic reform, and prospects for Russia's future in the Putin and post-Putin era.

L/R 218. Politics of Post War Western Europe. (M) Lynch.

This course examines political institutions, processes and events in postwar Western Europe. The focus will be a comparative analysis of such topics as political parties and systems, electoral behavior, as well as social and economic policy. We will also examine the way in which domestic processes and policies interact with membership in the European Union.

L/R 219. Contemporary Chinese Politics. (C) Goldstein.

This lecture course introduces students to the politics of the Peoples Republic of China. Complementing offerings in other departments, this course emphasizes events in the period since the Chinese Communist Party established its regime in 1949. In addition to surveying the political history of contemporary China, we will assess the meaning of these events by drawing upon theories about the nature and significance of ideology and organization in communist regimes, factionalism and its relationship to policy formulation and implementation, and general issues of political and economic development. Although the principal focus is on the domestic politics of the PRC, the course includes several lectures examining China's international relations.

220. (SAST223) Comparative South Asian Politics. (M) Frankel.

The comparative study of South Asian politics begins with many antecedent

questions. What are the reasons why a strong national political identity in the Indian subcontinent was no consolidated and territorial boundaries defined until the advent of the British Raj? Alternatively, given major regional diversities, why did the subcontinent not become differentiated into a large number of national states on the model of Europe? To what extent was the movement toward a unified territorial state weakened by colonial policies that recast social groups in terms of new pan-Indian categories based on caste and religious identities? What factors led to the partition of the subcontinent at the time of independence on the basis of religion, and what consequences did partition have for the strategies adopted by each state to develop an overarching national identity and universal principles of legitimate state power? Although the greater part of the course will address these questions by analyzing the social and political dynamics of democracy in India, they are equally relevant for understanding the difficulties encountered by Pakistan in defining a core identity and a stable form of government.

SM 221. Comparative Health Politics. (M) Lynch.

This course examines the relationship between politics and the health of populations in the world's rich democracies, including the United States. The key questions the course addresses are how and why countries differ in their health care policies, public health policies, and policies that affect the social determinants of health. There are no prerequisites, but prior coursework in comparative politics at the 100 or 200 level will be helpful.

SM 223. (GSWS225) ISSUES COMP POL/GENDER. (M)

Struggles over gender roles and rights have been prominent in the Middle East and North Africa since the 19th century and continue to mark contemporary political and social discourses. Since the colonial period, gender categories and sexualities have been critiqued and negotiated on behalf of empire, the nation, modernity, personal freedom; today debates and struggles over global rights, Islamic law, and modernity continue to mark politics. Despite the particularity of ideas and events in the region, a comparative framework helps to overcome exoticization of the region and develop a more acute understanding. The topics of the course include engagement with the discourse of the Exotic Other, the effects of modernity, the role of nationalism and the state, state-society negotiation, Islamic formulations, and continuously, the question: where does

change come from? Issues of the veil and islamic dress the expansion of anti-gay laws, the disciplining of bodies in state and social settings - these issues of gender and sexuality extend the realm of the political into intimate spaces. Assignments include a midterm and a short paper that develops research and analytical skills. The course is 200 level. While background in the study of the Middle East or gender is not necessary, an introductory political science or social science course is required.

L/R 224. Political Economy of Development. (M) Kapur.

The course surveys some of the principal themes in the political economies of lower income countries. The questions we shall seek to address cover a broad terrain. Who are the key actors? What are their beliefs, interests and motivations? What are their constraints? How are these being affected by closer economic linkages between national economies? While there is no single integrative framework or paradigm into which these themes neatly fit, a common thread is the changing dynamics and interplay between the local, the national, and the global. A familiarity with basic economic concepts will be helpful, but is not necessary.

226. ETHNIC CONFLICT.

L/R 229. China's Domestic Politics. (M) Wang. Prerequisite(s): PSCI-219 or Permission of the Instructor.

This is an advanced course on the main issues of contemporary Chinese politics, economy and social change. There is a strong focus on the reform period (post 1978). We will spend considerable time and energy on understanding the major themes and challenges of China's reforms, including the political system, the legal system, the inequality, foreign direct investment, village elections, lawmaking, environmental degradation, social opposition, corruption, and religion. We also investigate the many political and social consequences of reform and changing landscape of Chinese politics. A prior course on Chinese politics (for example, PSCI219) is a prerequisite of the course, or permission from the instructor is needed.

L/R 231. (AFRC232) Race and Ethnic Politics. (M) Gillion.

232. (COMM226) Introduction to Political Communications. (M) Jamieson.

This course is an introduction to the field of political communication, conceptual

approaches to analyzing communication in various forms, including advertising, speech making, campaign debates, and candidates' and office-holders' uses of news. The focus of this course is on the interplay in the U.S. between television and politics. The course includes a history of televised campaign practices from the 1952 presidential contest onward.

233. Introduction to African American Politics. (M) Reed.

This course is an historical survey of the main bases and substances of politics among black Americans and the relation of black politics to the American political order. Its two main objectives are: 1) to provide a general sense of pertinent historical issues and relations as a way of helping to make sense of the present and 2) to develop criteria for evaluating political scientists' and others' claims regarding the status and characteristics of black American political activity.

L/R 236. (PPE 202) The Public Policy Process. (A) Levendusky, Lapinski.

This course provides a comparison of policymaking in the United States. Throughout the course, we explore how interests compete within institutions to turn ideas into public policies. We explore a variety of different questions, including how many influences there are in the political process, what role interest groups play, and why policy is so difficult to change.

L/R 237. The American Presidency. (A) Gottschalk.

This course surveys the institutional development of the American presidency from the Constitutional convention through the current administration. It examines the politics of presidential leadership, and how the executive branch functions. An underlying theme of the course is the tensions between the presidency, leadership, and democracy.

L/R 238. Congress. (C) Lapinski.

This course is designed to introduce students to the study of Congress and of legislative behavior generally. The course will examine legislative procedures, congressional institutions (committees, subcommittees, leadership structure), campaigns and elections, legislative behavior (voting, constituency service, policy leadership), and the policymaking environment (interest groups, executive branch, media). Particular emphasis will be placed on consideration of whether and how electoral concerns affect legislative behavior and the structure of congressional

institutions. In addition, the course will consider congressional behavior within the broader context of representation. There are no prerequisites for this class, but students are expected to have at least a rudimentary understanding of American politics and government.

242. Business Govt & Pub Pol. (M)

L/R 244. Elections & Engagement.

L/R 251. (JWST248) ARAB ISRAELI RELATIONS. (C) Lustick.

In this course the Arab-Israeli dispute from 1948 to the present will serve as a vehicle for understanding how domestic and global political processes interact to shape, contain, or aggravate Middle Eastern wars between states and non-state actors. Particular stress will be placed on understanding how wars affect international politics in states and political organizations and how ideological and structural features of states and organizations find expression in wars and complicate or enable the search for peace. In addition, the key features of the conflict will be interpreted as both a clash between the political interests of national and/or religious groups and as a reflection of global political power struggles. Attention will be given toward the end of the course to alternative ideas about possible resolution of the conflict as well as to the increasingly prominent argument that, in this case, there is no solution.

L/R 252. War, Strategy and Politics. (C) Horowitz.

This class examines the strategy and politics of warfare, focusing on the way actors plan military campaigns and the factors that are likely to lead to victory and defeat. The course readings center in particular on the factors driving changes in warfare and civil-military relations. The course will cover a wide range of topics from theories of war-fighting to historical military campaigns to insurgency warfare, terrorism, and the future of war.

L/R 253. (JWST253, PSCI553) International Politics of the Middle East. (B) Lustick.

This course will focus primarily on episodes of external intervention by Great Powers in the politics of Middle Eastern states. We shall begin by examining the emergence of the Middle Eastern state system after the disappearance of the Ottoman Empire in the early part of the 20th century. This discussion will provide opportunities to develop key concepts in the study of international politics and will serve as

crucial historical background. We shall then turn our attention to the primary concern of the course - a systematic consideration of the motives, operational results, and long-term implications of a number of important examples of intervention by Great Powers in the Middle East. Among the episodes to be considered will be British policies toward the end of World War I, in Palestine in the 1930s, and, along with the French, in Suez in 1956. Soviet intervention in the first Arab-Israeli war, in 1948, will be analyzed along with Soviet policies toward Egypt in the early 1970s. American intervention in Iran in 1953 and in the Gulf War in 1991 will also be examined.

254. Politics of the European Union. (M) Staff.

This course explores the political economy of European integration. It is organized in three parts: First, we analyze the political and economic forces that have driven the process of European integration since World War II. We review the milestones of European integration in historical perspective and discuss different theoretical perspectives explaining the path and outcome of European integration. Second, the course takes an in-depth look at the institutions and decision-making processes of the European Union (EU). It analyzes the structure and operation of the Council of Ministers, the European Commission, the European Parliament, and the European Court of Justice, and explores how these institutions interact to shape EU policy. Third, we examine EU policymaking in key policy areas, including regulatory policies, redistributive politics, economic and monetary affairs, and external relations.

L/R 255. The Causes of War & Peace. (C) Weisiger.

The existence and endurance of war provides one of the most important puzzles of politics: why is it that people keep making use of such a destructive and painful way of resolving their disputes? This course addresses this question and the related question of what factors contribute to peace, focusing on both academic and popular explanations for conflict, including among others anarchy, over-optimism, shifting power, diversionary war, the malevolent influence of war profiteers, and a variety of explanations grounded in culture, religion and other ideational variables. In this discussion, we will focus on both interstate and civil wars, and on both the onset and the eventual termination of war. At various points in the course we will discuss a wide range of historical and contemporary cases, including the World

Wars, Vietnam, the Gulf War, the Iraq War, the various Arab-Israeli wars, the India-Pakistan rivalry, and a number of recent civil conflicts such as the wars in Yugoslavia, Congo, and Sudan. The course concludes with a discussion of strategies for managing ongoing conflicts and for securing peace in post war settings.

256. (PSCI458, SAST284) International Relations of the United States and Asia. (C) Frankel.

This course is one of the first arising out of scholarship on cold war international history. It draws on declassified government documents and other archival records to provide a window into the world-view of decision-makers who need to make national security policy based on incomplete information about ambiguous threats. The materials reveal a great deal about the importance of divergent historical perspectives and strategic cultures in the foreign policy-making process. The main focus of the course is on the intersection of the cold war and the rise of Asian nationalism. At the core of the analysis is the clash between America's global strategy of military containment against the Soviet Union and the assertion of Indian, and Chinese nationalism, concerned with preventing the United States from succeeding to Great Britain's imperial rule. The course examines new patterns of power after the Cold War, especially the emergence of two major powers in Asia - China and India - and the issues raised by the U.S. unilateralist use of military power to preserve its predominant position.

257. (SAST256) International Relations of South Asia. (C) Frankel.

One of the great accidents of history is the Partition of the subcontinent into the two states of India and Pakistan, and the onset of the cold war as a global struggle between the United States and the Soviet Union. Indo-Pakistan wars over Kashmir, the dismantling of Pakistan by India and the creation of Bangladesh, Pakistan's support for Al Qaeda and other terrorist groups, and the acquisition by both countries of nuclear arsenals has marked the region as potentially the most dangerous area in the world. This course analyzes the changing security environment from 1947 until the present including the involvement of the United States, Soviet Union/Russia and China, and assesses the prospects for averting chaos in greater South Asia.

L/R 258. (PSCI558) Human Rights. (C) Doherty-Sil.

What exactly should be considered a fundamental "human right"? What is the

basis for something is a fundamental human right? This course will examine not only broad conceptual debates, but will also focus on specific issue areas (e.g., civil rights, economic rights, women's rights), as well as the question of how new rights norms emerge in international relations.

SM 259. Chinese Foreign Policy. (M) Goldstein. Prerequisite(s): MUST HAVE TAKEN PSCI 219 OR EQUIVALENT.

267. (EEUR152, RUSS123) INT'L AFF:RUSSIA&EASTEUR.

L/R 271. (AFRC269, PPE 270) Constitutional Law: Public Power & Civil Rights to 1912. (C) Smith.

This course explores the creation and transformations of the American constitutional system's structures and goals from the nation's founding through the period of Progressive reforms, the rise of the Jim Crow system, and the Spanish American War. Issues include the division of powers between state and national governments, and the branches of the federal government; economic powers of private actors and government regulators; the authority of governments to enforce or transform racial and gender hierarchies; and the extent of religious and expressive freedoms and rights of persons accused of crimes. We will pay special attention to the changing role of the Supreme Court and its decisions in interpreting and shaping American constitutionalism, and we will also read legislative and executive constitutional arguments, party platforms, and other influential statements of American constitutional thought.

L/R 272. American Constitutional Law II. Smith.

This course examines American constitutional development from the eve of WWI through the second Obama administration. Topics include the growth of the New Deal and a Great Society regulatory and redistributive state, struggles for equal rights for racial and ethnic minorities, women and GLBT Americans, contests over freedoms of religion and expression, criminal justice issues, the Reagan Revolution and the revival of federalism and property rights, and issues of national security powers after September 11, 2001. Lectures are on videos and class time is devoted to in-depth discussions.

L/R 275. (NELC282, RELS243) Muslim Political Thought. (M) Norton.

This seminar offers an introduction to Muslim political thought. Chronologically the course ranges from the medieval period

to the present. Particular attention will be given in the later part of the course to the renaissance of Muslim political thought in recent years and to the development of political Islam, including the work of such thinkers as Said Qutb and Hasan Turabi. We will also study the roots of this renaissance in classical philosophy of the medieval period (Al Farabi, Al Ghazali, Ibn Khaldun, Ibn Tufayl) and the liberal age.

SM 280. (GSWS280) Feminist Political Thought. (M) Society Sector. All classes. Hirschmann.

This course is designed to provide an overview of the variety of ideas, approaches, and subfields within feminist political thought. Readings and divided into three sections: contemporary theorizing about the meaning of "feminism"; women in the history of Western political thought; and feminist theoretical approaches to practical political problems and issues, such as abortion and sexual assault.

L/R 282. (BIOE282) Lying, Cheating, Stealing, and Killing: How to Think About Professional Ethics.

Allen/Emanuel/Hirschmann/Strudler.

Professionals - in business, medicine, law, and politics - face myriad ethical dilemmas in their daily work life that challenge, and sometimes conflict with, the moral commitments that guide their everyday life. This course systematically examines the ethical dimensions of these four professional roles, asking questions such as: Are there limits to what we should sell? How far should competitors go to "win"? Who should get ventilators in a flu pandemic? Is it morally permissible for physicians to assist in suicide? Should lawyers represent terrorists or child killers? How far does attorney-client privilege go? Is it morally justifiable to torture enemy combatants? Should politicians lie?

SM 298. Selected Topics in Political Science. (C) Staff.

Consult department for detailed descriptions. More than one course may be taken in a given semester. Recent titles have included: Leadership & Democracy; Conservative Regimes.

SM 312. (AFST312) Democracy in Africa. (M) Staff.

In this course, we will examine the impact of historical context, leadership, constitutionalism, political parties, civil society, economic reform, regime legitimacy, and the international community of the democratic transition process in sub-Saharan Africa. Specific

country case studies will be examined both comparatively and regionally, given the increasingly interdependent nature of political and economic transition on the continent. The goal of the seminar is to provide students with the tools necessary to understand the democratic transition process in Africa in a way that is also relevant to other regions in the world.

320. (GAFL509, URBS320) Who Gets Elected and Why? The Science of Politics. (C) Rendell.

What does it take to get elected to office? What are the key elements of a successful political campaign? What are the crucial issues guiding campaigns and elections in the U.S. at the beginning of the 21st century? This class will address the process and results of electoral politics at the local, state, and federal levels. Course participants will study the stages and strategies of running for public office and will discuss the various influences on getting elected, including: Campaign finance and fundraising, demographics, polling, the media, staffing, economics, and party organization. Each week we will be joined by guest speakers who are nationally recognized professionals, with expertise in different areas of the campaign and election process. Students will also analyze campaign case studies and the career of the instructor himself. Edward G. Rendell is the former Mayor of Philadelphia, former Chair of the Democratic National Committee, and former Governor of Pennsylvania.

SM 327. (PSCI527) MODERN INDIA.

SM 330. PIW Semester Core Seminar: Conducting Public Policy Research in Washington DC. (C) Martinez.

This seminar is taught in Washington D.C. for students enrolled in the Washington Semester Program. It includes an orientation to observation and research in the Washington Community and a major independent research project on the politics of governance.

SM 331. (LALS331) Latino Politics.

SM 332. (COMM332) Survey Research & Design. (M) Dutwin.

Survey research is a small but rich academic field and discipline, drawing on theory and practice from many diverse fields including political science and communication. This course canvasses the science and practice of survey methods, sampling theory, instrument development and operationalization, and the analysis and reporting of survey data. Major areas of

focus include measurement and research on survey errors, application to election polling, new frontiers in data collection, overall development of data management and introductory statistics.

SM 334. (COMM375) Emergency Response.

SM 335. (HSOC335) Healthy Schools. (M) Summers.

This Fox Leadership and academically based community service seminar will use course readings and students' own observations and interviews in their service learning projects in West Philadelphia schools to analyze the causes and impact of school health and educational inequalities and efforts to address them. Course readings will include works by Jonathan Kozol, studies of health inequalities and their causes, and studies of No Child Left Behind, the CDC's School Health Index, recess, school meal, and nutrition education programs. Course speakers will help us examine the history, theories, politics and leadership behind different strategies for addressing school-based inequalities and their outcomes. Service options will focus especially on the West Philadelphia Recess Initiative. Other service options will include work with Community School Student Partnerships and the Urban Nutrition Initiative.

SM 336. Congress, Elections and American Democracy. Lapinski.

SM 337. PRES.PRIMARIES&ELECTIONS.

SM 338. Statistical Methods PSCI. (M) Meredith.

The goal of this class is to expose students to the process by which quantitative political science research is conducted. The class will take us down three separate, but related tracks. Track one will teach some basic tools necessary to conduct quantitative political science research. Topics covered will include descriptive statistics, sampling, probability and statistical theory, and regression analysis. However, conducting empirical research requires that we actually be able to apply these tools. Thus, track two will teach how to implement some of these basic tools using the computer program Stata. However, if we want to implement these tools, we also need to be able to develop hypotheses that we want to test. Thus, track three will teach some basics in research design. Topics will include independent and dependent variables, generating testable hypotheses, and issues in causality. Students are expected to have

one semester of Calculus or permission of instructor. The class satisfies the College of Arts and Science Quantitative Data Analysis requirement.

SM 357. INTERNAT'L DEVELOP. POL.

358. International Law. (M) Staff.

This course intends to familiarize the student with the concept of "law", its use as a constitutive and regulative force in the international arena, and the expanding scope of international law through the inclusion of transnational law and human rights.

SM 374. (COMM374) COMMUNICATION & CONGRESS. (M) Felzenberg.

SM 397. Topics in International Politics. (C) Staff.

SM 398. (COMM393) Selected Topics in Political Science. (C) Staff.

Consult department for detailed descriptions. More than one course may be taken in a given semester. Recent titles have included: Sustainable Environmental Policy & Global Politics; Shakespeare and Political Theory.

SM 404. (COMM404) Media and Politics. (C)

SM 410. (COMM403) Compar Pol Communication. (B) Staff.

SM 413. (GAFL530) Evidence Based Policies of Economic and Political Development. (C) Grossman.

This class provides a "hands-on" introduction to the promises and limitations of using Randomized Control Trials (RCTs) to inform policy makers, practitioners, and academics of the conditions under which policies likely would have a positive effect on economic and political outcomes, in the context of international development.

This course has three parts: the first is devoted to understanding the "nuts and bolts" of running field experiments / RCTs in developing countries. In part, we will be reading Glennester and Takavarasha's *Running Randomized Evaluations: A Practical Guide*. In addition, we will discuss core behavioral concepts from both behavioral economics and social psychology (prospect theory). The second part of the course will be devoted to demonstrating how schools have used RCTs to inform core policy debates (e.g. What are some effective ways to reduce corruption? How can we improve the

performance of frontline service providers? How can politicians be more responsive to their constituents?) In the third part, students will be presenting their own research proposals, explicitly designed to address either a core policy question in the developing world or--for those interested--in the USA. Here students will have an opportunity to partner with the Social and Behavioral Sciences Team (<https://sbst.gov>), which is under the National Science and Technology Council.

SM 415. (COMM433) COMM & DEMOCRATIZATION. (C)

SM 418. (PPE 476) Evolution, Politics and Computer Simulation. (C) Lustick.

In this course we shall explore how recent developments in evolutionary theory relate to larger questions raised by students of complexity and complex adaptive systems. We shall study how they together provide a basis for important critiques of standard approaches in political science and enable fascinating and powerful understandings of politics and political phenomena -- including national identity and identity change, state formation, revolution, globalization, and leadership. An important vehicle for the application of these insights for understanding politics is computer simulations featuring agent-based modeling. Students will use "PS-I" an agent based computer simulation platform, to develop their own models, conduct experiments, test hypotheses, or produce existence proofs in relation to popular theoretical positions in contemporary political science. No knowledge of computer programming is required.

SM 419. (LALS419) Democ & Decentralization. (M)

Are decentralization reforms fostering local community participation and improving the quality of democracy in Latin America? Are they, instead, posing a threat to democracy and development? In the last thirty years, Latin American countries have undergone major reforms that devolved fiscal resources, administrative responsibilities, and political authority from the central governments to the states and municipalities. These decentralization reforms have radically altered the political landscape in Latin America, even in the countries that have since then tried to recentralize power, such as Venezuela. What were the main causes of the decentralization movement? Who were the main national and international actors who pushed forward these reforms? What have the main political, fiscal, and policy consequences of decentralization been?

These are some of the questions this course will focus on. The experiences of decentralization in Argentina, Brazil, Colombia, Bolivia, Venezuela, and Mexico will be studied. Although prior knowledge of Latin American politics is not required, additional readings will be assigned to the students who have not taken at least one introductory course in Latin American politics, history or cultures.

SM 431. Leadership & Democracy.

SM 433. (AFRC433) SOCIAL MOVEMENTS. (M)

SM 434. (AFRC434) Advanced Topics in American Politics. (M) Gillion.

This seminar is designed to serve as a "capstone" experience for advanced undergraduates interested in American politics. It exposes students to some of the issues currently being studied and debated by the leading scholars in the field. For each topic we will read works that take competing or opposing positions on an issue; for example we will examine the current controversy over the causes and consequences of divided government. Students will write a research paper analyzing one of the debates.

SM 436. Political Psychology. (M) Margolis.

How do campaign advertisements influence voters' perceptions and behavior? What roles do emotions play in politics? Do we all harbor some measure of racism, sexism, or homophobia, and what role do these stereotypes play in political behavior? How and why do ideologies form, and how does partisanship influence the way that voters understand the political world? How do people perceive threat, and what are the psychological consequences of terrorism? These questions, and many others, are the province of political psychology, an interdisciplinary field that uses experimental methods and theoretical ideas from psychology as tools to examine the world of politics. In this course, we will explore the role of human thought, emotion, and behavior in politics and examine the psychological origins of citizens' political beliefs and actions from a variety of perspectives. Most of the readings emphasize politics in the United States, though the field itself speaks to every aspect of political science.

SM 437. (AFRC437, AFRC638, PSCI638) Race & Criminal Justice. (M) Gottschalk.

Why are African Americans and some other minority groups disproportionately

incarcerated and subjected to penal sanctions? What are the political, social and economic consequences for individuals, communities, and the wider society of mass incarceration in the United States? What types of reforms of the criminal justice system are desirable and possible? This advanced seminar analyzes the connection between race, crime, punishment, and politics in the United States. The primary focus is on the role of race in explaining why the country's prison population increased six-fold since the early 1970s and why the United States today has the highest incarceration rate in the world. The class will likely take field trips to a maximum-security jail in Philadelphia and to a state prison in the Philadelphia suburbs.

SM 439. (COMM498, PSCI635) EXPERIMENTAL METHODS OF INQUIRY. (M)

SM 441. THEORY AND PRACTICE & PURPOSE.

SM 470. (URBS470) Executive Power in Metropolitan American Politics. (M) Rendell; Siskind.

Focusing on presidents, governors, and big-city mayors, this course will explore a wide range of historical and recent examples of executive leadership and decision-making. How do their actions in office shape and get shaped by long-term historical and political forces? How and why do executive office holders use (and occasionally abuse) their power? What opportunities exist to transform both policy and public opinion? What kinds of constraints circumscribe the options available and limit the impact of executive choices? Exploring presidents such as Franklin Roosevelt, Lyndon Johnson and Barack Obama, governors including Ronald Reagan, Nelson Rockefeller and Bill Clinton and mayors like Richard Daley, Sr. and Jr., Ed Koch, and Ed Rendell, this course at once examines the personalities and predilections of individuals as well as the political ideas and institutions that shape their time in office.

Registration in this course is by permission of the instructors only. To seek a permit for the course please provide a short personal statement of not more than one page with the following information: your name and contact information; your year; your major; other courses you have taken on related subjects; how this course would fit into your larger academic and intellectual development; any other personal or extenuating circumstances you think it would be useful for us to know about you. Email personal statements to Peter Siskind (siskind@sas.upenn.edu) no

later than April 3 and enrollment decisions will be made by April 18.

SM 481. Political Theory & Public Policy. (M) Hirschmann.

This course will explore the relevance of canonical work in modern political theory - Locke, Kant, Mill, and Marx - to various public policy and practical political issues. We will consider what political philosophy has to contribute to practical issues: not only what philosophy can tell us about the ethics of practical issues, but also how public policy makers might utilize political philosophy to create better policy. We will also explore whether and how reading political philosophy in light of specific concrete issues encourages us to look at both the theories and the policies differently than if each were considered on their own.

SM 496. DCC RESEARCH SEMINAR. (M)

SM 497. Political Science Honors. (C) Doherty-Sil.

This is a mandatory seminar for all students planning to submit an honors thesis for the purpose of possibly earning distinction in Political Science upon graduation. The course is aimed at helping students identify a useful and feasible research question, become familiar with the relevant literatures and debates pertaining to that question, develop a basic understanding of what might constitute "good" and "original" research in different subfields, and set up a plan for conducting and presenting the research. The course is also aimed at building a community of like-minded student researchers, which can complement and enrich the honor student's individual experience of working one-on-one with a dedicated faculty thesis advisor. Students apply in the spring of their junior year for admissions to the honors program and enrollment in PSCI497.

SM 498. Selected Topics in Political Science. (C) Staff.

Consult department for detailed descriptions. Recent topics include: Globalization; Race & Criminal Justice; Democracy & Markets in Postcommunist Europe.

SM 504. Urban Politics. (M) Staff.

The intention of this course is to prepare students for urban research in any setting. It is a graduate level course, which reviews the intellectual traditions of the field and endeavors to establish the present state of research. It is oriented to theory rather than case studies. It is comparative and

international in perspective though many of the sources are American. The latter reflect the intellectual milieu of political science in the country where this University is located.

SM 505. The American Legislative Process. (M) Staff.

The theory of legislative process with a focus on the American Congress and its antecedents. The evolution of legislative rules will be stressed. The evolution will be used to analyze Congressional "reform." The course format is a combination of lectures, discussions, and guest speakers.

SM 510. Electoral Systems. (M) Nagel.

This course examines alternative arrangements by which democracies choose leaders, representatives, and governments through competitive elections. Some of the material is also relevant to voting on policies in legislatures, committees, and referendums. The treatment is comparative and theoretical, but students may focus on particular systems through reports and papers.

SM 511. (SAST528) Society and Politics in India. (M) Kapur, Frankel.

This course examines the experience of representative democracy in India and the country's development record in a historical framework. It will ask questions such as: How did representative democracy emerge in India, and what explains its persistence? What are the sources of its vulnerability? What kind of a sense of nationhood does this democratic experience rest upon? What are the exclusions built into this conception of nationhood? What is the relationship between India's development experience and its democratic experiment? How have India's "traditional" institutions adapted or failed to adapt to modern circumstances? Why has India performed well in certain economic sectors even while its record in providing basic social services has been dismal? How have the Indian State and its public institutions managed and coped with these changes? And how has India's self-perception about its place in the world changed in recent years, and what are its implications?

L/R 514. (EALC104, EALC504, PSCI214) Political Economy of East Asia. (M) Amyx.

This course begins by exploring the causes and consequences of the rise of industrial Asia, paying particular attention to the role played by political institutions. It then examines the political economic challenges faced in recent years by many countries in this region. What explanations may be

given for the rapid growth experienced in the region? And, how can we reconcile the success of the past with the difficulties experienced in more recent years? The role of national financial systems in supporting or undermining growth and the politics of financial crisis management and financial system reform will be explored in depth.

SM 515. (PSCI215) Political Institutions and Economic Performances. (C) Staff. Fulfills

Quantitative Data Analysis requirement.

Comparative study of whether and how political institutions (political regimes, constitutional rules, party and electoral systems) affect economic performance (economic growth, investment, income distribution). This course fulfills the University's quantitative skills requirement.

SM 516. (AFST515) African Political Econ. (M)

L/R 517. (PSCI217) Russian Politics. (B) Sil.

This course will present an in-depth examination of political, economic and social change in post-Soviet Russia within a historical context. After a brief discussion of contemporary problems in Russia, the first half of the course will delve into the rise of communism in 1917, the evolution of the Soviet regime, and the tensions between ideology and practice over the seventy years of communist rule up until 1985. The second part of the course will begin with an examination of the Gorbachev period and the competing interpretations of how the events between 1985 and 1991 may have contributed to the collapse of the Soviet Union. We will then proceed to make sense of the continuities and changes in politics, economics and society in contemporary Russia. Important topics will include the confrontations accompanying the adoption of a new constitution, the emergence of competing ideologies and parties, the struggle over economic privatization, the question of federalism and nationalism, social and political implications of economic reform, and prospects for Russia's future in the post-Yeltsin era.

This course may also be taken as a graduate seminar (PSCI 517) with the permission of the instructor and the completion of additional requirements.

SM 519. (URBS519) Cities in the Global Econ.

SM 521. Comparative Business-State Relations. (M) Staff.

History and theory of the state's role in formation of modern industrial capitalism. Comparative industrial policies, comparative industrial structure, business-state and state-labor relations, and foreign economic relations. Emphasis on Western Europe but includes the United States and East Asia.

522. Public Administration. (M) Nagel.

This course focuses on three principal functions of leaders in public organizations: establishing and instilling purpose, motivating cooperative effort, and making decisions based on undistorted communication.

SM 525. (COMM525) Intro to Pol Comma.

SM 527. (PSCI327) MODERN INDIA.

SM 532. The Political Economy of North-South Relations. (M) Staff.

This course concerns the political economy of "North-South" relations. The seminar will investigate key concepts and perspectives about the political economy of North-South relations by examining a variety of attempts at economic transformation in Asia, Latin America, Africa, and Eastern Europe.

SM 533. Comparative Political and Economic Change. (M) Staff.

A comparative exploration of the politics and economics of the formation of states and the development of capitalism, both historical and contemporary, and an examination of contending theoretical perspectives about them. Examples will be taken from Europe since the sixteenth century, nineteenth and twentieth century Latin America and Asia, and contemporary Africa.

SM 534. (AFRC533) Political Culture and American Cities. (M)

SM 535. (AFRC524) INEQUALITY & RACE POLICY. (M)

SM 545. (EDUC595) POLITICS & EDUCATION.

SM 552. Game Theory. (M) Weisiger.

This course provides an introduction to non-cooperative game theory and its applications to political science. The goal of the course is to provide students with the background and understanding necessary to read published game-theoretic work in political science journals. To that end, the

course covers the basic concepts of game theory, including Nash equilibrium and its main refinements, simultaneous and sequential games, repeated games, evolutionary game theory, and games of incomplete and private information. In addition, we will cover some of the central models used in political science, notably models of public choice (such as the median voter theorem) and models of bargaining.

SM 554. (LALS554) Politics of Global Environment. (M) Staff. Prerequisite(s): Open to undergraduates with permission of the instructor.

Research seminar on public security via the constraint of power (violence, states, arms) in domestic and international politics. Examines devices (virtue, balance, separation, mixture and Constitutions); applications in city-states (Greece & Rome), naval mercantile politics (Venice & Britain), the "Republic of Europe," the USA (1787-1861), and nuclear arms control; and theorists (Polybius, Michiavelli, Publius, Calhoun et al).

556. (PSCI152) American Foreign Policy. (M) Staff.

A detailed study of our foreign policy issues with special emphasis on (1) the international realities of the 21st Century (2) the strategic challenges to our national security (3) the diplomatic options available for regional conflict and (4) the moral imperatives of our global leadership

SM 557. Politics of the Soviet Successor States and Eastern Europe. (M) Staff.

This course is an advanced research seminar on Soviet and post-Soviet politics. Students will be expected to develop and complete a substantial research paper. Class sessions will center on recent developments in the study of the politics of Russia and other Soviet successor states and on student presentations of research in progress.

L/R 558. (PSCI258) Human Rights.

SM 560. The Organization of World Politics. (M) Staff.

This course examines the organizational features of international life. Instead of focusing on one or several international organizations by means of an institutional analysis the scope of this course is more analytical; it explores the role of norms in structuring interactions (informal organizations) as well as the organizational designs of formal international organizations.

SM 566. Government and Politics of East Asia. (C) Staff.

This course will explore the changing character of the state in Japan and Korea (North and South), and its relationship with the society and economy. The nature of politics in these countries will be studied through political parties, pressure groups, and elections? Questions explored will include the following: "Who governs?" How does the state in Japan and Korea differ from those in Western nations? How did the state in these countries evolve and how did its relationship with the society evolve? What role did the state play in developing respective economies?

SM 567. East Asian International Relations. (C) Staff.

This course will begin with an examination of the changing context of East Asian International Relations & will survey the foreign policy strategies employed by the United States, the Soviet Union, China, Japan and Korea since the turn of the century. This will be followed by analyses of interaction among these countries. What were the forces, assumptions and motives behind each strategy? Who chose the policy and why? How effective were various strategies? What are the problems underlying various sets of relationships now? Who makes the decisions, and under what domestic and foreign environment? What are the future prospects?

SM 568. Politics and Society in Modern India. (M) Frankel.**SM 580. Contemporary Political Philosophy. (M)** Staff.

Significant contributions to political philosophy in the twentieth century. This course will alternate with PSCI 581.

SM 582. (GSWS582) Gender Power and Feminist Theory. (M) Hirschmann.

This seminar will take up some of the "foundational" texts in contemporary feminist theory as well as some of the newest work, to explore the ways in which power operates through gender and sex. Subsidiary themes that will be developed include: the still relevant modernism/postmodernism debate as it relates to feminism; the intersectionality of race, gender, sexuality and class and how feminists can and do talk about "women"; the role of "the body" in relation to social constructivism; the relevance of feminist theory to policy issues, and which theoretical approaches are the most appropriate or have the most powerful potential. Room will be left on the syllabus for student input into the readings. This

course is open to undergraduates who have had some prior course work in GSWS and/or political theory; undergraduates are advised to contact the professor to discuss their preparation before enrolling.

SM 583. American Political Thought. (M) Staff.

A consideration of one or a few topics, individuals, or eras in American political thought.

SM 584. (GSWS584) Political Philosophy. (M) Staff.

An examination of basic theoretical problems of political science divided into three parts. First, specific features of social sciences will be examined and three most important general orientations of social sciences (analytical, interpretative and critical) will be compared and analyzed. Second, basic concepts of social and political sciences will be studied: social determination, rationality, social change, politics, power, state, democracy. Third, the problem of value judgments will be considered: Is there a rational, objective method for the resolution of conflicts in value judgments? Is morality compatible with politics?

SM 586. Justice. (M) Kennedy.

A consideration of a fundamental political concept, justice, in the works of selected political philosophers.

SM 590. The Nature of Political Science. (M)

The origins, development, and current status of the discipline and profession of political science.

SM 596. Hegel and Marx. (M) Kennedy.**SM 598. (PPE 475) Selected Topics. (C)** Staff.

Consult department for detailed descriptions. More than one course may be taken in a given semester. Recent titles have included: Race Development and American International Relations, Hegel and Marx, and Logic of the West.

SM 600. International Relations Theory. (M) Staff.

This purpose of this course is two-fold. First, the survey course is designed to introduce students to a wide range of theories of international politics. During the course of the semester we will examine neo-realism, power transition theory, hegemonic stability theory, the modern world system, international regimes and interdependence, the democratic peace, bureaucratic politics, organizational theory,

constructivism, and decision making theory. Second, the course will sharpen students' research design skills. The written assignments require students to take the often abstract theories presented in the readings and develop practical research designs for testing hypotheses derived from the theories. The papers will not include data collection or the execution of actual tests. Rather, they will focus on the conceptual problems of designing tests which eliminate competing hypotheses, operationalizing variables, and identifying potential sources of data. Student's grades will be based on five short research designs and discussion leadership.

SM 609. (COMM609) Comparative Pol Comm. (M)**SM 610. Comparative Political Analysis. (M)** Sil.

This seminar is aimed primarily at graduate students planning to take doctoral exams in comparative politics. It provides a critical survey of the field of comparative politics, tracing the intellectual history of the field, examining shifts in conceptual frameworks and research traditions, and comparing alternative methodological approaches. The first half of the course generally examines how processes of political, economic, and social change have been theorized in the social sciences from the mid-19th century to the present. In this process, particular attention is paid to the bifurcation between theories that emphasize the "universal" (e.g. the homogenizing effects of specific processes or variables) and the "particular" (e.g. the persistence of distinctive historical legacies and trajectories). Since this bifurcation is reinforced by distinct styles and methods of research, the seminar also probes the recent battles between rational-choice, cultural, and structuralist scholars, while considering the trade-offs between varieties of formal, quantitative, and qualitative methods. In the second half, the focus shifts to the range of substantive problems investigated by scholars in the field of comparative politics.

These topics cover the complex relations among nations, states and societies; the origins, consolidation, and patterns of democratic governance; political economy in relation to development processes and social policies; the intersection of international/global economy and domestic politics; the dynamics of revolutions and social movements; and alternative problematiques constructed from the point of view of real actors such as workers, women, and local communities. In all cases, As a whole, the course is designed to provide an introduction to important issues and

debates that comparativists have regularly engaged in; to help you understand the assumptions behind, and differences between, particular approaches, methods, and styles of research; to examine whether current debates are spurring new or better research in a given field in light of past approaches; and to gauge whether there has been progress, fragmentation, or stagnation in the field of comparative politics as a whole.

SM 614. Political Identity & Political Institution. (M) Staff.

SM 615. (COMM635) Political Economy of Development. (M) Staff.

This course examines the debate in development studies arising from recognition that economic models, theories, methods, and strategies abstracted from the specific experience of western societies and cultures do not have general applicability. A broader social science approach is adopted, one which emphasizes the need to understand the social structures and cultures of the developing countries, the capabilities of weak versus strong states, and the links with the international system that influence transformative processes to which industrializing economies are subjected. The readings offer an overview of the most influential theories of development and underdevelopment that structured debate from the 1960's through the 1990's, and focus on the elements of these approaches that advance understanding of development and stagnation in several key countries, including Brazil, Mexico, India and selected countries in East and Southeast Asia.

SM 616. Financial Statecraft. (M) Amyx.

This graduate level seminar explores the evolving political dynamics of 'FINANCIAL STATECRAFT'. We will examine the relationship between financial flows and traditional foreign policy concerns, seeking to understand why and how governments have attempted to harness or constrain financial markets and institutions in the service of foreign policy goals. Specific topics include the introduction of capital flow guarantees or restrictions, imposition of financial sanctions on non-state actors, underwriting of foreign debt in currency crises, currency unions and other forms of currency cooperation, and foreign exchange reserve management.

SM 618. International Political Economy. (M) Mansfield.

Examination of the relationship between the international, political, and economic systems from a variety of theoretical perspectives that have emerged in the postwar period, including liberalism, transnationalism, statism, Marxism, and dependency.

SM 619. Strategic Studies Seminar. (M) Goldstein.

This seminar offers graduate students an introduction to the subfield of international relations labeled strategic studies (or security studies). In addition to exploring key theoretical issues, we consider their usefulness for understanding relevant events in international politics since World War II. Although the course emphasizes the distinctive features of great power strategy in the nuclear age, we also look at the continuing role of conventional forces, the strategic choices of lesser powers, and selected security problems in the post-Cold War world (e.g., proliferation, terrorism).

SM 621. Power and Resistance in the United States. (M) Staff.

SM 623. The Politics of Gender. (M) Norton.

This is a course on the categories and construction of gender, sex and sexuality. The literature is so vast, the debate so vigorous, and the changing shape of thought so rapid that the absurdity of the pretense to provide a "comprehensive" or a "definitive" account is more than usually evident. The course foregrounds works that put gender, sex and sexuality - and with them the subject - in question. One set of works is drawn from political and feminist theory and includes writings by Judith Butler, Jacques Lacan, Guy Hocquenghem, Monique Wittig, and Nancy Fraser. Through the use of works from comparative politics and cultural studies, the interrogation of the sexual subject reveals itself as an interrogation of political economies and political institutions. This aspect of the course addresses the question of gender in relation to race, class, and diverse political situations, including those of colonialism and liberalism, welfare policy and immigration law.

SM 631. American Political Development. (C) Gottschalk.

Analyzes important patterns of continuity and change in American politics by examining the development of the American State from a comparative and historical perspective. Covers issues and debates central to not only the subfield of

American politics, but also the discipline of political science more broadly. These include the role of the state, political culture, interests, ideas, and institutions in political development, and the role of history in political analysis. Open to advanced undergraduates with the permission of the instructor.

SM 633. Hegemonic Analysis: Theories and Applications. (M)

Lustick.

An important strain within contemporary political science has been the attempt to explain how power is exercised through the manipulation or exploitation of consciousness, habits, and cultural predispositions. One of the key concepts in the study of these issues is that of "hegemony" --the establishment of particular beliefs as commonsensical presumptions of political life. In this course that notion will be systematically explored. Of particular interest will be how authors who conduct hegemonic analysis cope with the problem of analyzing the effect of what the objects of their analysis, by definition, do not and, in some sense, cannot, think about. Illustrations of hegemonic phenomena and attempts to analyze them will be drawn from a variety of fields, such as political theory, historiography, comparative politics, American politics, rational choice theory, agent based modeling, and epistemology.

SM 635. (COMM615, PSCI439) Exp Design & Iss Causal. (M)

SM 637. Survey American Institut. (M)

SM 638. (PSCI437) Race & Criminal Justice. (M)

SM 649. Chinese Politics. (M) Goldstein.

This course is designed to provide a high-level introduction to the study of Chinese politics. After surveying China's political history, we turn to a closer examination of several key issues in the contemporary study of Chinese politics. The themes we cover include issues of political legitimacy, political participation, policy formulation and implementation, revolutionary and reformist strategies of political change, and the domestic and international influences on a regime's foreign policy.

SM 650. Development of American Political Institutions. (M) Staff.

A political and historical interpretation of current American political institutions and practice focused on the federal system, the

main national institutions, and various regime questions.

SM 652. American Politics. (M) Staff.

This seminar will survey the literature in a variety of subfields of American politics but will focus primarily on American political institutions. Emphasis will be on exposing graduate students in the seminar to the field of American politics, the methodologies employed in its study, the work of leading scholars, and the topics currently being debated by those scholars. The course is also designed to lay the groundwork to enable students to conduct original research. As such, the preparation of a research design proposal will be a key part of the seminar.

SM 655. (LALS655) Democracy in Comparative Perspective. (M) Staff.

SM 670. Recent Democratic Theory. (M) Nagel.

This seminar explores a series of interrelated debates that have important implications for the design of democratic institutions, the expectations by which they are judged, and the spirit that animates actions within them. The course makes no attempt to survey a vast literature, but the principal readings have been selected because of their outstanding quality and influence.

SM 680. Constitutional Thought. (M) Staff.

A broadly theoretical approach to the constitutional dimension of the study of

politics, with emphasis on the problems of constituting a political form, the nature and authority of a constitution, and systematic standards of interpretation, using the United States Constitution as an exemplar.

SM 681. (PSCI181) Modern Political Theory. (M)

SM 690. The Logic of Social Inquiry. (M)

An introduction to the nature and development of theoretical knowledge in the social sciences with emphasis on political science.

L/R 692. (GAFL611) Advanced Statistical Analysis. (M) Staff.

SM 693. Research Methods in Political Science. (M) Staff.

An introduction to the design and execution of research to generate information about the nature and behavior of political actors, organizations and systems. Techniques covered include unobtrusive measures, case studies, direct observation, experimentation, content analysis and survey research. Historical and interpretive approaches may also be covered.

SM 694. Advanced Research Method. (C) Staff.

The purpose of this class is three-fold. First, the course is designed to introduce students to a wide range of statistical models (e.g., event count models, limited dependent variables, and survival analysis) as well as problems associated with

statistical research (e.g., heteroscedasticity, autocorrelation, and selection bias). Second, the course is designed to give students practical experience in data analysis. Students will complete a number of assignments using a wide variety of well know data sets (e.g., Polity III, World Value Systems, National Election Studies, Democratic and Local Governance, Correlates of War, Militarized Interstate Disputes, International Crisis Behavior, Penn World Tables, General Social Survey, United Nations Crime Survey). Third, the course will explore the relationship between qualitative and quantitative analysis. Requirements will include weekly assignments, discussion leadership, and a final paper. While PSCI692 is not a prerequisite for this course, some prior exposure to statistical analysis (including regression) is recommended.

SM 798. (COMM798) Selected Topics in Political Science. (C) Staff.

Consult department for detailed descriptions. More than one section may be given in a semester. Recent titles have included: Interpreting the Canon; State, Self, & Society; U.S. Policy in Europe; and Dissertation Writing.

SM 805. (COMM706, COMM805) ANALYSIS ELECTION DATA. (M)

**VIPER
(AS) {VIPR}****SM 120. Vagelos Integrated Program
in Energy Research (VIPER)**

Seminar, Part I. (B) John M. Vohs,
Andrew M. Rappe and Kristen L. Hughes.
Prerequisite(s): Admission to VIPER
program.

This is the first part of the two-semester seminar designed to introduce students to the VIPER program and help them prepare for energy-related research. Research articles on various energy-related topics will be discussed, and students will be guided toward their research topic

selection. Library research, presentation of data, basic research methods, research ethics, data analysis, advisor identification, and funding options will also be discussed. Sample energy topics discussed will include: Applications of nanostructured materials in solar cells; Solid oxide fuel cells; Global climate modeling: radiant heat transfer; Nanocrystal-based technologies for energy storage; Photo-bioreactor systems for mass production of micro-algae; Advanced rare earths separations chemistry; Modeling of oxides for solar energy applications; and Electronic transport in carbon nanomaterials.

**SM 121. Vagelos Integrated Program
in Energy Research (VIPER)**

Seminar, Part II. (A) Andrew M. Rappe,
John M. Vohs, and Kristen L. Hughes.
Prerequisite(s): VIPR120.

This is the second part of the two-semester seminar designed to introduce students to the VIPER program and help them prepare for energy-related research. In this semester we will continue to discuss research articles on various energy-related topics, best practices for library research, presentation of data, basic research methods, research ethics, data analysis, and funding options. A large focus of the course will also be on presenting (in both written and oral form) the work from the students' summer research internships.

PSYCHOLOGY (AS) {PSYC}

PSYC 001 is the prerequisite for Psychology courses numbered 100 and above. Students who have received a 5 on the AP test in Psychology are encouraged to enroll in any 100-level course offered.

L/R 001. Introduction to Experimental Psychology. (C) Living World Sector. All classes. Staff.

This course provides an introduction to the basic topics of psychology including our three major areas of distribution: the biological basis of behavior, the cognitive basis of behavior, and individual and group bases of behavior. Topics include, but are not limited to, neuropsychology, learning, cognition, development, disorder, personality, and social psychology.

SM 070. Psychology of Food. Rozin. Does not count for the Psych major. To apply: <http://www.upenn.edu/curf/bfs/bfs-current-courses>.

097. PSYCH ABROAD. (C)

L/L 109. (BIBB109, BIOL109) Introduction to Brain and Behavior. (C) Living World Sector. All classes. Staff.

Introduction to the structure and function of the vertebrate nervous system, including the physiological bases of sensory activity, perception, drive, motor control and higher mental processes. The course is intended for students interested in the neurobiology of behavior. Familiarity with elementary physics and chemistry will be helpful.

L/R 111. (VLST211) Perception. (C) staff. Prerequisite(s): PSYC 001 or COGS 001.

How the individual acquires and is guided by knowledge about objects and events in their environment.

121. Learning and Memory. (C) Staff. Prerequisite(s): PSYC 001.

This course presents an analysis of the cognitive processes involved in learning and memory, primarily in humans. We will survey the major findings concerning learning and memory discovered using laboratory experiments and the major theories of learning and memory derived from those findings. A major emphasis will be on the interplay between theory and data. Class assignments will require the statistical analysis of data obtained from experimental studies, but no specific prior background is required.

127. (BIBB227) Physiology of Motivated Behaviors. (C) Grill.

Prerequisite(s): PSYC 001.

This course focuses on evaluating the experiments that have sought to establish links between brain structure (the activity of specific brain circuits) and behavioral function (the control of particular motivated and emotional behaviors). Students are exposed to concepts from regulatory physiology, systems neuroscience, pharmacology, and endocrinology and read textbook as well as original source materials. The course focuses on the following behaviors: feeding, sex, fear, anxiety, the appetite for salt, and food aversion. The course also considers the neurochemical control of responses with an eye towards evaluating the development of drug treatments for: obesity, anorexia/cachexia, vomiting, sexual dysfunction, anxiety disorders, and depression.

L/R 149. (BIBB249) Cognitive Neuroscience. (C) Epstein.

Prerequisite(s): PSYC 001 or COGS 001.

The study of the neural systems that underlie human perception, memory and language; and of the pathological syndromes that result from damage to these systems.

151. Language and Thought (formerly titled Cognitive Psychology). (C) Staff. Prerequisite(s): PSYC 001 or COGS 001.

This course describes current theorizing on how the human mind achieves high-level cognitive processes such as using language, thinking, and reasoning. The course discusses issues such as whether the language ability is unique to humans, whether there is a critical period to the acquisition of a language, the nature of conceptual knowledge, how people perform deductive reasoning and induction, and how linguistic and conceptual knowledge interact.

L/R 160. Personality and Individual Differences. (C) Staff. Prerequisite(s): PSYC 001.

This course provides an introduction to the psychology of personality and individual differences. Many psychology courses focus on the mind or brain; in contrast to those approaches of studying people in general, the focus in this course is on the question "How are people different from each other?" It will highlight research that take a multidimensional approach to individual differences and attempts to integrate across the biological, cognitive-

experimental, and social-cultural influences on personality.

162. Abnormal Psychology. (C)

Ruscio. Prerequisite(s): PSYC 001. The Psychology Department does NOT issue permits for College of Liberal and Professional Studies (LPS) courses.

The concepts of normality, abnormality, and psychopathology; symptom syndromes; theory and research in psychopathology and psychotherapy.

170. Social Psychology. (C) Society Sector. All classes. Staff. Prerequisite(s): PSYC 001.

An overview of theories and research across the range of social behavior from intra-individual to the group level including the effects of culture, social environment, and groups on social interaction.

181. Intro to Developmental Psychology. (C) Brannon.

Prerequisite(s): PSYC 001.

The goal of this course is to introduce both Psychology majors and non-majors majors to the field of Developmental Psychology. Developmental Psychology is a diverse field that studies the changes that occur with age and experience and how we can explain these changes. The field encompasses changes in physical growth, perceptual systems, cognitive systems, social interactions and much more. We will study the development of perception, cognition, language, academic achievement, emotion regulation, personality, moral reasoning, and attachment. We will review theories of development and ask how these theories explain experimental findings. While the focus is on human development, when relevant, research with animals will be used as a basis for comparison.

193. Study Abroad.

L/R 207. (CIS 140, COGS001, LING105, PHIL044) Introduction to Cognitive Science. (C) Brainard/Ungar.

Prerequisite(s): An Introductory Course in Computer Science, Linguistics, Neuroscience, Philosophy, or PSYC 001.

Cognitive Science is founded on the realization that many problems in the analysis of human and artificial intelligence require an interdisciplinary approach. The course is intended to introduce undergraduates from many areas to the problems and characteristic concepts of Cognitive Science, drawing on formal and empirical approaches from the parent disciplines of computer science, linguistics, neuroscience, philosophy and psychology. The topics covered include Perception,

Action, Learning, Language, Knowledge Representation, and Inference, and the relations and interactions between such modules. The course shows how the different views from the parent disciplines interact, and identifies some common themes among the theories that have been proposed. The course pays particular attention to the distinctive role of computation in such theories, and provides an introduction to some of the main directions of current research in the field. It is a requirement for the BA in Cognitive Science, the BAS in Computer and Cognitive Science, and the minor in Cognitive Science, and it is recommended for students taking the dual degree in Computer and Cognitive Science.

L/R 217. (BIBB217, VLST217) Visual Neuroscience. (B) staff. Prerequisite(s): PSYC 109.

An introduction to the scientific study of vision, with an emphasis on the biological substrate and its relation to behavior. Topics will typically include physiological optics, transduction of light, visual thresholds, color vision, anatomy and physiology of the visual pathways, and the cognitive neuroscience of vision.

225. (BIBB270) Drugs, Brain, and Mind. (B) Nelson. Prerequisite(s): PSYC 109 or BIBB 109.

The course will begin with a review of basic concepts in pharmacology: routes of drug administration, drug metabolism, the dose response curve, tolerance, and sensitization. Following a brief overview of cellular foundations of neuropharmacology (cell biology, synaptic and receptor function), the course will focus on various classes of drugs used to treat neuropsychiatric disorders including, among others, depression, schizophrenia, and anxiety. We will additionally consider mechanisms mediating the mind-altering, addictive and neurotoxic effects of abused drugs.

231. (BIBB231, BIOL231) Animal Behavior. (C) Seyfarth/Cheney. Prerequisite(s): PSYC 001 or BIOL 102 or COGS 001.

The evolution of social behavior in animals, with special emphasis on group formation, cooperation among kin, mating systems, territoriality and communication.

235. (LING135) Psychology of Language. (C) Dahan. Prerequisite(s): PSYC 151 or LING 001.

This course describes the nature of human language, how it is used to speak and comprehend, and how it is learned. The

course raises and discusses issues such as whether language ability is innate and unique to humans, whether there is a critical period for the acquisition of a language, and how linguistic and conceptual knowledge interact.

239. (BIBB260) Neuroendocrinology. (C) Flanagan-Cato.

This course is designed to examine the various roles played by the nervous and endocrine systems in controlling both physiological processes and behavior. First, the course will build a foundation in the concepts of neural and endocrine system function. Then we will discuss how these mechanisms form the biological underpinnings of various behaviors and their relevant physiological correlates.

247. (BIBB247, PSYC549) Neuroscience and Society. (C) Farah. Prerequisite(s): PSYC 109 or PSYC 149.

Cognitive, social, and affective neuroscience have made tremendous progress in the last two decades. As this progress continues, neuroscience is becoming increasingly relevant to all of the real-world endeavors that require understanding, predicting and changing human behavior. In this course we will examine the ways in which neuroscience is being applied in law, criminal justice, national defense, education, economics, business, and other sectors of society. For each application area we will briefly review those aspects of neuroscience that are most relevant, and then study the application in more detail.

253. (PPE 153) Judgment and Decisions. (C) Staff. Prerequisite(s): One semester of statistics OR microeconomics.

Thinking, judgment, and personal and societal decision making, with emphasis on fallacies and biases.

265. (PPE 203) Behavioral Economics and Psychology. (C)

Bhatia. Prerequisite(s): Microeconomics, AND PSYC 001.

This course will introduce you to the study of choice, and will examine in detail what we know about how people make choices, and how we can influence these choices. It will utilize insights from psychology and economics, and will apply these insights to domains including consumer choice, risky decision making, and prosocial decision making.

L/R 266. Introduction to Positive Psychology. (B) Staff. Prerequisite(s): PSYC 001.

An introduction to the study of positive emotions, positive character traits, and positive institutions. The positive emotions consist of emotions about the past (e.g., serenity, satisfaction, pride), about the future (e.g., hope, optimism, faith), and emotions about the present (pleasure and gratification). The distinction among the pleasant life, the good life, and the meaningful life is drawn. The positive traits include wisdom, courage, humanity, justice, temperance, and spirituality, and the classification of these virtues is explored. The positive institutions are exemplified by extended families, free press, humane leadership, and representative government.

275. (PPE 275) Introduction to Political Psychology. (C) Tetlock. Prerequisite(s): PSYC 001 or COGS 001.

NOTE: Students who are more interested in business-related issues may want Wharton 276x which is a modified version of this course specifically for Wharton undergraduates.

This course will explore psychological approaches to understanding political beliefs, attitudes, and actions at the levels of both individual citizens and national leaders. It will also explore the possibility that psychological science itself is not immune to the political debates swirling around it. Specific topics will include: the workings of belief systems (and their power to shape what we "see"), cognitive biases (and their power to cause miscalculations), sacred values and their role in stabilizing belief systems and social interaction, personality and ideology (the linkages between the personal and the political), and clashing conceptions of morality and distributive and corrective justice (striking variations among people in what they consider to be fair). We shall also explore some topics that have sparked controversy in the psychological research literature and that tend to polarize opinion along political lines, including work on intelligence and unconscious bias.

280. Developmental Psychology. (C) Staff. Prerequisite(s): PSYC 001. PSYC 280-601 is an LPS class.

This course will cover theory and research related to the development of attachment, emotional regulation, peer and intimate relationships, personality, moral reasoning, and emotional and behavioral disorders. The course will emphasize the degree to which family, peer, and community contexts influence development from

infancy into adulthood. Efforts will be made to integrate biological and environmental accounts of development across the lifespan.

281. Cognitive Development. (C)

Swingley or Weisberg. Prerequisite(s): PSYC 001 or COGS 001.

What infants and young children come to know about the world, and how they learn it. Topics will include changes in children's thinking, perceptual development, language acquisition, and current theories of cognitive development.

SM 311. (VLST212) Research Experience in Perception. (C) Rust.

Prerequisite(s): One semester of statistics, and one of the following: PSYC 111, 149, 151, 217, or permission of instructor. Dept permission required. Undergraduates only.

In this research course, students will begin by first replicating earlier experiments to measure human visual memory capacity. After several class discussions to discuss ideas, each student will design and conduct their own experiment to further investigate visual and/or familiarity memory.

SM 327. Research Experience in Behavioral Neuroscience. (C) Grill.

Prerequisite(s): PSYC 127 and one semester of statistics. Dept permission required.

Students conduct supervised experiments on the physiological basis of motivation. Topics will be chosen from the intersection of issues in taste and nutrition, such as the ability of animals to take in specific food substances needed to maintain themselves. Class meets for lecture, discussion, and conduct of an experiment.

SM 362. Research Experience in Abnormal Psychology. Dr. Melissa Hunt.

Prerequisite(s): PSYC 162 and one semester of statistics. Psych majors only. Instructor permission required. PSYC 362-301 is a two-semester course starting in the Fall.

PSYC 362-301 is a two-semester course starting in the Fall. Class size limited to 8 students.

SM 370. Research Experience in Social Psychology. Staff.

Prerequisite(s): PSYC 170 AND one semester of statistics. Dept permission required. Psychology majors only.

In this course, students will work in small groups to develop, empirically test, and report on a research question within one of the domains of social psychology. Depending on the nature of the project, students will employ survey, experimental,

or observational research methodology, and learn how to to conduct and report the appropriate statistical tests with Excel and/or SPSS (typically, correlations, t-tests, ANOVA and ANCOVA, multiple regression, , factor analysis, and measures of reliability). Class discussions will help students craft their projects, and in-class presentations will provide the opportunity to develop and refine presentation skills. Psychology majors only. Class size is limited to 14 students.

399. Individual Empirical Research. (C) Dept permission required.

Individual research involving data collection. Students do independent empirical work under the supervision of a faculty member, leading to a written paper. Normally taken in the junior or senior year.

SM 400. Senior Honors Seminar in Psychology. Thompson-Schill.

Prerequisite(s): acceptance into the Honors Program in Psychology. Dept permission required.

Open to senior honors candidates in psychology. A two-semester sequence supporting the preparation of an honors thesis in psychology. Students will present their work in progress and develop skills in written and oral communication of scientific ideas.

SM 407. (BIBB451) Behavioral Genetics. (C) Price. Prerequisite(s): Basic statistics or permission of instructor.

This course will cover basic principles of human and animal behavior genetics, including the genetics of normal variation as well as extreme phenotypes represented by behavioral, psychiatric and neurologic disorders. The course will focus on methods necessary to critically evaluate research findings on normal and abnormal human behavior. Animal models will also be reviewed.

SM 411. Seminar in Perception. (C) Stocker. Prerequisite(s): PSYC 111.

421. (BIBB442, BIOL442, NGG 575) Neurobiological Basis of Learning and Memory. (C) staff.

This advanced course focuses on the current state of our knowledge about neurobiological basis of learning and memory. Students will explore the molecular and cellular basis of learning in invertebrates and vertebrates from a behavioral and neural perspective.

SM 423. (BIBB423) Seminar in Motivation. (C) Staff. Prerequisite(s): Permission of the instructor.

SM 429. SEMINAR HUMAN MEMORY. Kahana. Prerequisite(s): A background in (a) elementary statistics and (b) computer programming, preferably using Matlab.

Advances in brain recording methods over the last decade have generated vastly more brain data than had been collected by neuroscientists during the previous century. To understand the human brain, scientists must now use computational methods that exploit the power of these huge data sets. This course will introduce you to the use of big data analytics in the study of human memory and its neural basis. Through hands-on programming projects, we will analyze multi-terabyte data sets both to replicate existing phenomena and to make new discoveries. Although the course has no formal neuroscience or psychology prerequisites it does require a background in (a) elementary statistics and (b) computer programming, preferably using Matlab.

SM 431. (BIBB432, BIOL432) Seminar in Animal Cognition. (C) Cheney.

Prerequisite(s): PSYC 231/Biol 231/ BIBB 231.

The aim of this course will be to provide advanced undergraduates with a detailed review of a number of research areas in behavioral ecology. Topics will change each year, and students will be able to take the course more than once.

SM 435. Psycholinguistics. Dahan. Prerequisite(s): PSYC 151, or PSYC 235, or LING 001, or permission of instructor.

SM 439. (BIBB460) Neuroendocrinology Seminar. (C) Flangan-Cato. Prerequisite(s): PSYC 109.

This course is designed to examine the various roles played by the nervous and endocrine systems in controlling both physiological processes and behavior. First, the course will build a foundation in the concepts of neural and endocrine system function. Then, we will discuss how these mechanisms form the biological underpinnings of various behaviors and their relevant physiological correlates. We will focus on sexual and parental behaviors, stress, metabolism, neuroendocrine-immune interactions, and mental health.

440. SLEEP AND SLEEP DISORDER.

SM 449. Seminar in Cognitive Neuroscience. staff. Prerequisite(s): PSYC 109 or PSYC 149, or PSYC 547. PSYC 449-601 is an LPS course. PSYC 449-301 is a Psych Dept course.

Topics vary each semester.

SM 451. (BIBB431) Seminar in Cognitive Psychology. (C) Staff.

Prerequisite(s): PSYC 231.

Topics vary each semester.

SM 453. (PPE 475) Seminar in Decision Making. (C) Staff.

Prerequisite(s): PSYC 253 (formerly PSYC 153). Undergraduates only.

Topics vary each semester.

SM 462. Seminar in Abnormal Psychology. staff. Prerequisite(s): PSYC 162. Undergraduates only.

Topics vary each semester.

SM 464. Seminar in Personality. (C)

Staff. Prerequisite(s): PSYC 160.

Topics vary each semester.

SM 466. Seminar in Positive Psychology: Imagination and Creativity in Psychology. Forgeard and Seligman. Prerequisite(s): PSYC 001.

Instructor permission required. Course does not fulfill the research requirement for psych majors.

By forming mental representations of things not immediately present to the senses (imagination), and/or simulating possible futures (prospection), humans can generate novel ideas and products (creativity) that contribute to human progress and flourishing. This course will specifically focus on imagination and creativity within the field of psychology. Students will learn about the cognitive, motivational, and social processes that shaped important creative insights (or big moments) in the history of the discipline. In addition, students will be given the opportunity to apply knowledge gained from the course by designing their own original creative research proposal as the final project for the course. Note: This course constitutes a research study designed to investigate how scientific creativity can best be taught to undergraduate students. Student participation in the research study is voluntary, subject to informed consent, and will not affect their performance in the course.

SM 470. Seminar in Social Psychology. (C) Staff. Prerequisite(s): PSYC 170. Undergraduates only.

Topics vary each semester.

SM 472. Behavioral Biology of Women. (C) Apicella. Prerequisite(s): PSYC 272 or permission of instructor.

Department permit required.

A course that explores female behavior focusing on evolutionary, physiological, and biosocial aspects of women's lives from puberty, through reproductive processes such as pregnancy, birth, lactation to menopause and old age. Examples are drawn from traditional and modern societies and data from nonhuman primates are also considered.

SM 473. (BIBB473, NGG 706) Neuroeconomics. (C) Kable.

Prerequisite(s): PSYC 149, 253, or 265.

This course will review recent research that combines psychological, economic and neuroscientific approaches to study human and animal decision-making. A particular focus will be on how evidence about the neural processes associated with choices might be used to constrain economic and psychological theories of decision-making. Topics covered will include decisions involving risk and uncertainty, reinforcement learning, strategic interactions and games, and social preferences.

SM 474. Cultural Psychology. Staff. Prerequisite(s): PSYC 170 or PSYC 272.

Humans are a cultural species, constantly navigating a complex web of culturally bound practices, norms, and worldviews. This seminar will survey the theory and research of the young but rapidly expanding field of cultural psychology. In the seminar, we will explore how culture shapes and is shaped by an array of psychological domains, ranging from perception, information processing, and language, to concepts of the self, motivations, emotion, morality, and physical and mental health.

SM 475. (PPE 475) Behavioral Law and Economics. (C) Staff.

Prerequisite(s): PSYC 253 or PSYC 265. Undergraduates only.

Topics vary each semester.

SM 477. Seminar in Animal Behavior. (C) Staff. Prerequisite(s): PSYC 131/231.

Seminar in Animal Behavior: Social Brains, Social Behavior, and Social Evolution. This course will take an integrative approach to the study of social behavior across a variety of animal species. We will primarily take an ecological approach to studying social behavior at different levels of analysis, including physiological mechanism, development, and function.

SM 478. (PPE 475) OBEDIENCE.

Royzman. Prerequisite(s): PSYC 170.

Though almost half a century old, Milgram's 1961-1962 studies of "destructive obedience" continue to puzzle, fascinate, and alarm. In this seminar, we will take an in-depth look at these famous studies (along with the more recent replications) and explore their various psychological, historical, and philosophical ramifications. This course has a number of intellectual goals that go beyond simply rarifying one's understanding of a particular content area (important and generative as it may be). One such a goal is to enable you to think critically (though not disparagingly) about other people's research and theoretical claims that ensue from it, all with the hope that you can then apply the self-same critical acumen to your own future work. Second, this course will offer a hospitable environment for developing (and exchanging) creative ideas of your own. Your work on your individual reaction papers and on the term paper in particular will be a key element in achieving this goal.

SM 480. Seminar in Developmental Psychology. Staff. Prerequisite(s): PSYC 001. Undergraduates only.**SM 481. Seminar: Cognitive Development.** Swingley. Prerequisite(s): PSYC 281 or PSYC 280.**511. PROB MODELS OF PERCEPTIO.****L/R 547. FNDTIONS SOC COG NEUROSC.****549. (PSYC247) NEUROSCIENCE AND SOCIETY.****579. EXP METHODS PERCEPTION.****671. (CRIM671) Violence: A Clinical Neuroscience Approach. (A)** Raine. Graduate students only.

Developed for both Psychology and Criminology graduate students, this interdisciplinary course outlines a clinical neuroscience approach to understanding violence in which the tools of neuroscience- neuroanatomy, neurophysiology, neurocognition, neuroendocrinology, neuropharmacology, molecular and behavioral genetics- are used to help inform the etiology and treatment of violence. Clinical components include psychopathy, proactive and reactive aggression, homicide domestic violence, conduct disorder, oppositional defiant disorder, antisocial personality disorder, crime, and delinquency as well as their

comorbid conditions (schizophrenia, drug abuse, hyperactivity). The interaction between social, psychological, and neurobiological processes in predisposing to violence will be highlighted, together with neurodevelopmental perspectives on violence focusing on prospective longitudinal and brain imaging research. Key implications for the criminal justice system, neuroethics, forensics psychology, and intervention will also be outlined.

SM 712. REGRESSION & ANOVA II. (C)

SM 790. (COMM890) SELF-REGULATION & BEHAV. ALBARRACIN.

This seminar will cover psychological theories of goals, research on self-control, and models of behavior change, tailored to the interests of the students. We will read classic and contemporary research related to goal setting, conscious and unconscious goal processes, and mechanisms of behavior change.

251. (PSCI113) INTRO TO DECISION THEORY. (C) staff.

SM 270. CULTURAL PSYCHOLOGY. (C)

First-Year Graduate Courses

501. (COGS501, LING545) Mathematical Foundations for Language and Communication Science I. (D) Liberman.

This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.

502. (COGS502, LING546) Mathematical Foundations for Language and Communication Science II. (D) Liberman.

This two-semester sequence will provide basic mathematical modeling and algorithmic tools for interdisciplinary research in animal, human or machine communication, in association with the IRCS IGERT program. Topics include signal processing, statistical modeling and machine learning, information theory, game

theory, and formal language theory. The courses will be taught in a laboratory setting, and will emphasize practical skills as well as basic concepts.

539. (BIBB585, NGG 594, PHYS585) Theoretical and Computational Neuroscience. (M) Balasubramanian.

This course will develop theoretical and computational approaches to structural and functional organization in the brain. The course will cover: (i) the basic biophysics of neural responses, (ii) neural coding and decoding with an emphasis on sensory systems, (iii) approaches to the study of networks of neurons, (iv) models of adaptation, learning and memory, (v) models of decision making, and (vi) ideas that address why the brain is organized the way that it is. The course will be appropriate for advanced undergraduates and beginning graduate students. A knowledge of multi-variable calculus, linear algebra and differential equations is required (except by permission of the instructor). Prior exposure to neuroscience and/or Matlab programming will be helpful.

SM 600. (NGG 589) Proseminar in General Psychology. (C) Staff. Dept permission required.

Choice of half or full course units each sem. covering a range of subjects and approaches in academic psychology.

SM 603. (NGG 595) Behavioral Neuroscience. (H) Grill. Fulfills the "Brain" requirement.

Current research on the neural basis of behavior is organized in six subsections: animal communication, sex behavior, circadian rhythms, variety energy and water balance, synaptic plasticity and learning, and communication, addiction. Topics are selected based on excitement surrounding recent research developments. Each topic is analyzed initially at thernal receptors behavioral level, followed by the systems and the cell and molecular control of levels. Throughout the course, attention is paid to the analysis of behavior interesting stereotyped behaviors, e.g., bird song, lordosis, licking, whose description and neurology has provided insights into the neural basis systems that contribute to overall neural control of behavior. Attention is also paid to the development of understanding of the neuroanatomy of selected neural systems.

SM 604. (NGG 592) Cognitive Neuroscience. (C) Farah.

Review of what has been learned about the neural mechanisms underlying intelligent

behavior in humans and animals. Traditional topic areas of cognitive science are covered, specifically: vision (early vision through object recognition), attention, learning and memory, motor control, planning and problem-solving, and language. Attempts are made to integrate results of different neuroscience approaches to each topic, including the study of human neurological patients, lesion studies in animals, single unit recordings, neural network modelling, and functional imaging techniques.

605. (NGG 582, PHRM540) Behavioral Neuropharmacology. (C)

Lucki and Staff. Prerequisite(s): Permission of course director.

The effects of various drug classes on animal behavior are examined. Behavioral studies identifying the neurochemical mechanisms of action of psychotropic drugs are reviewed. Animal models of neurological and psychiatric illnesses are discussed.

608. (OIDD900) Judgment and Decisions. (C) Baron.

Thinking, judgment, decision making, beliefs, and probability, with emphasis on fallacies and errors.

609. (NGG 573) Systems and Integrative Neuroscience. (A) Staff. Fulfills the Brain requirement.

610. (STAT501) Mathematics for Psychologists. (M) Staff. A two-term course.

611. (BSTA550, STAT500) Statistics for Psychologists. (A) Staff.

612. (STAT501) Introduction to Nonparametric Methods and Log-linear Models. (B) Staff.

SM 630. (NGG 630) Cognitive Neuroscience of Memory. (C) Staff. Fulfills the Brain requirement.

This course will review the neural mechanisms of learning and memory. Readings will include both seminal and cutting-edge papers on topics ranging from perceptual memory to higher order functions, including working memory, declarative memory, skill learning, and semantic memory. Within each topic we will attempt to integrate the results of different neuroscience approaches, including the study of human neurological patients, lesion studies and single unit recordings in animals, neural network modeling, event-related potentials, and functional imaging techniques.

631. (NGG 631) Cognitive Neuroscience of Affect. (C)

Farah.

We will survey, and as far as possible, synthesize, three bodies of literature on emotion and the brain, specifically: (1) neuroimaging and pharmacologic studies of emotion and the normal human brain; (2) the neuroscience of affective disorders in humans; and (3) relevant studies of reinforcement and learning in animals.

632. (NGG 632) Cognitive Neuroscience of Vision. (C)

Epstein.
This course will review the neural basis of visual cognition. Emphasis will be placed on linking cognitive theory to neuroscientific methods. Topics will include object and face recognition, scene perception, visual attention, mental imagery, and visual awareness.

699. Individual Research for First-Year Graduate Students. (E)

SM 705. Neuroethics. (C) Farah. Dept permission required.

Neuroscience is increasingly affecting all aspects of human life, from the relatively familiar medical applications in neurology and psychiatry, to new applications in education, business, law, and the military. Today's neuroscience graduate students will be among the scientists, citizens, and policymakers who will lead society through the maze of decisions regarding the appropriate uses of neuroscience. This course provides a survey of the key ethical, legal, and social issues at the intersection of neuroscience and society. It will include a combination of traditional classroom lectures, discussion and debates, as well as an online component coordinated with a course at Wisconsin's Neuroscience and Public Policy graduate program.

SM 715. Teaching Seminar. (C) Rozin. Prerequisite(s): For graduate students in Psychology.

This course is designed to aid graduate students in developing fundamental teaching skills. The focus will be on lecturing, applicable to job talks as well as classroom lectures, but there will also be some attention to discussion sections and handling of questions.

Seminars

SM 703. Special Topics in Psychology. (C) Staff.

SM 704. Research Methods and Statistical Procedures for Social and Clinical Sciences. (C)

Staff.
This course has three primary objectives: 1) developing criteria and strategies for strong inference of causal relationships in social and clinical psychology research; 2) examining the array of research designs employed in the social/clinical sciences together with the threats to internal and external validity associated with each; 3) learning and applying statistical analytical methods appropriate for questions in the social/clinical sciences. The course will employ a seminar format and a project-oriented approach to learning. Students will be encouraged to utilize examples from their own research programs in applying the design and analysis concepts covered in the course.

SM 709. Special Topics in Clinical Psychology. (C) Staff. Graduate students only.

In this seminar we will survey substantive, methodological and statistical issues that arise in the planning, conduct, and interpretation of empirical inquiries about the effects of psychotherapies. Challenges presented in efforts to disseminate evidence-based clinical practices will also be addressed.

SM 711. Basic Problems in Developmental II. (C) Staff.

SM 719. Experimental Methods in Perception. Brainard. This is an IGERT foundational course.

This IGERT foundational course covers experimental methods and data analysis techniques used in the study of human perception.

SM 730. Special Topics in Motivation. (C) Staff.

SM 733. Special Topics in Vision. (C) Staff.

SM 736. Special Topics in Language. (C) Staff.

SM 739. Special Topics in Perception. (C) STOCKER.

Probability theory has become an increasingly popular and successful framework for modeling human perceptual and cognitive behavior. This course will provide a careful introduction to probability theory and the various ways it has been applied in psychology and neuroscience.

Goal is to make students understand the most important state-of-the-art probabilistic models in perception and cognition, what they reveal about the brain's underlying computations and strategies in dealing with uncertainty, and how such computations can potentially be performed by populations of neurons.

SM 745. (NGG 583) Special Topics in Cognitive Neuroscience. (C) Staff.

750. (NGG 576, PHRM550) Special Topics in Neuropsychopharmacology. (C)

Lucki and Staff. Prerequisite(s): Permission of Instructor.

Biological issues relevant to neuropsychiatric illnesses are covered in detail in four sections. The first section covers clinical aspects of major psychiatric disorders and includes some contact with patients. The second section presents the neuroanatomy of the limbic system. In the third section, emphasis is on the mechanisms of action of psychotropic drugs, including antidepressants, antipsychotics, anxiolytics, and stimulants. The final section covers information relevant to understanding biological processes that may be abnormal in neuropsychiatric illnesses, such as stress, sleep, and circadian rhythms, as well as quantitative genetics.

SM 751. Special Topics in Cognitive Psychology. (C) Staff.

SM 757. Language and Communication Sciences Research Seminar. (M) Trueswell.

SM 770. (PSCI770) Special Topics in Social Psychology. (C) Staff.

SM 810. Psychodiagnostic Testing. (A) Staff.

SM 811. Psychodiagnostic Interviewing. (A) Staff.

SM 815. Introductory Practicum. (B) Staff.

SM 820. Advanced Practicum. (C) Staff.

Intensive studies of single individuals including interviews, tests, and experiments; also clinical experience at appropriate community agencies.

999. Individual Study and Research. (C)

PUBLIC HEALTH STUDIES (MD) {PUBH}

500. (NURS570) Foundations of Public Health. (A)

This course will provide a topical overview of the inter-disciplinary field of public health and provides grounding in the public health paradigm. Through a series of lectures and recitation sessions, students will learn about the history of public health and the core public health sciences including behavioral and social sciences, biostatistics, epidemiology, environmental health, and policy and management. Other topics include ethics in public health, context analyses (specifically sociographic mapping and urban health), community participation in research, public health promotion, and the prevention of chronic and infectious diseases.

501. Introduction to Biostatistics. (C) Shofer, Hanlon.

Introduction to Biostatistics This course is designed to provide a broad overview of biostatistics methods as well as applications commonly used for public health research. Topics covered include measurement and categorizing variables, use and misuse of descriptive statistics, testing hypotheses, and applying commonly used statistical tests. An emphasis will be placed on the practical application of data to address public health issues, rather than theoretical and mathematical development. Students will learn how to choose and apply statistical tools to data sources, when and how statistical tools can be used to analyze data, and how to interpret others' quantitative studies. Students will gain experience using online datasets and the STATA statistical software package.

502. (NURS500) Introduction to the Principles and Methods of Epidemiology. (C) Smith, Cannuscio.

Epidemiology is a combination of a subject matter science and research methodology. Introduction to Principles and Methods of Epidemiology focuses on the latter component. The course introduces study designs applied to human populations, including randomized trials and four types of observational studies (cohort, case-control, cross-sectional, ecological). Because cause- and-effect relations are at the heart of epidemiologic research, numerous related topics are taught, including causal inference, and bias.

503. Environmental and Occupational Health. (A) Howarth, Pepino.

This course will provide a broad introduction to the scientific basis of occupational and environmental health. Content will address issues in the ambient, occupational and global environments as well as the tools, concepts and methods used in environmental health.

504. Public Health Theories & Frameworks. (C) Ruggieri, Fleisher.

This course provides students with a solid foundation in behavioral and social science theory, research, and interventions as they pertain to public health. Content will provide exposure to a broad range of theories, including the theoretical foundations of social science applications for help-seeking, gender, race, ethnicity and social class. These theories will be discussed using examples of their applications to numerous public health problems including HIV/AIDS, violence, cancer, cardiovascular diseases, obesity, and diabetes.

505. Public Health Policy and Administration. (A) Noonan, Klusaritz.

This course is an introduction to health policy and management. It examines both the historical and current state of health policy in America and integrates these concepts within the context of public health practice. We will examine key concepts in understanding US health care organization, financing and delivery, our current political and economic debate on health care reform, examining the role and management issues of public health departments, and case studies in public health policy and management.

506. Methods for Public Health Practice. (C) Solomon, Hall, Leary.

This is a course designed around modules whose objective is to provide students with greater familiarity in a range of methods essential to public health practice. The course will be framed around an indepth capacity and needs assessment and community public health planning in Philadelphia. Topics covered will include data collection and evaluation, both quantitative and qualitative, uses of informatics in public health, analysis of vital statistics, working with communities, methods for developing and facilitating solutions to public health problems, including concepts of advocacy and policy formation and development of interventions. The course demonstrates how core public health competency areas in data analysis and communication provide

foundations for applications for both practice and practice-based research.

507. Public Health Law & Ethics. (A) Anderson.

What is best - or, at least, seems best -- for the public's health is not always consistent with society's view of what is legal, ethical, or good policy. This course introduces key concepts of legal, ethical, and policy analysis and attempts to demonstrate with current examples how these forces empower, guide, and constrain public health decision-making and actions. The course will combine lecture, Socratic dialogue, and group discussion in an informal setting. The course will feature guest lectures by several distinguished experts from Penn and from other universities.

508. Capstone Seminar I. (F) Frasso, Anderson, Levy, Grisso.

The Capstone is a culminating experience required for graduation in the Master of Public Health Program. In two Capstone seminars, students will have an opportunity to synthesize the knowledge and public health competencies they have developed through their coursework. Capstone students will apply their knowledge and skills to public health problems in a chosen area of interest. They will engage their peers in scholarly discussion, drawing from relevant scientific literature and public health experience in order to begin to develop a common grounding and identity as public health professionals. The Capstone incorporates two semester-long seminars and a research project. Over the course of the Capstone, students will develop, propose, revise, implement, and present their projects. As their projects successfully come to fruition they will also advise their junior colleagues still in the proposal stage.

515. (CPLN622) COMMUNITY DEVELOPMENT. (B)

517. (EPID518) Introduction to the Epidemiologic Study of Geography and Health. (A) Branas, Weibe.

This course will provide an introduction to GIS in public health research and practice. Through a series of lectures and labs students will explore theories linking health and the environment, spatial analysis and spatial epidemiology, and applications of GIS-related data collection and analysis.

L/R 519. Issues in Global Health. (A)

McLaughlin. Prerequisite(s):

Undergraduates must have completed HSOC-010-401.

This course presents an overview of issues in global health from the viewpoint of many different disciplines, with emphasis on economically less developed countries. Subjects include: millennium goals; measures of disease burden; population projections and control; environmental health and safe water; demography of disease and mortality; zoonotic infectious diseases; AIDS and HIV prevention; vaccine utilization and impact; eradication of polio virus; chronic diseases; tobacco-associated disease and its control; nutritional challenges; social determinants of global health; harm reduction and behavioral modifications; women's reproductive rights; health economics and cost-effective interventions; health manpower and capacity development; bioethical issues in a global context.

521. Program Evaluation in Public Health. (K) Karpyn.

There are many public health programs developed to promote change. The question most funders have for public health programs is: what outcomes do you expect? This course is designed to review the principles of identifying short term, mid term and long term outcomes and methods of measurement. Students learn about the application of data collection skills to all phases of developing a public health program or service innovation, from needs assessment to analysis of findings to implementation of changes based on results. Students learn to appreciate how these skills can be used as practical tools for identifying public health problems, program development, program implementation including taking a reflective practice approach, ensuring equity and fairness in program delivery (i.e. combating disparities), and generally promoting public health through effective and efficient programmatic efforts.

525. Developing Effective Public Health Programs Using a Human Rights Based Approach. (L) Voet.

This course will engage students in discussion of how a human rights approach, informed by international human rights declarations and covenants as well as gender theory, can more comprehensively inform the development of a variety of public health programs. Specifically, the class will discuss how health policies, programs and practices can impact on human rights (e.g. mandatory reporting of certain communicable diseases, quarantine,

accessibility of services, etc.); how violations of human rights affect health (e.g. torture, discrimination, etc.) and how health and human rights are ultimately inextricably linked and programming for public health must use a framework that ensures a balance of interests between the two disciplines.

526. (ANTH426) Anthropology and Public Health. (M) Barg.

In this course, we examine three types of relationships between anthropology and public health. Anthropology and public health will examine complementary and competing concepts fundamental to each discipline and ways that these concepts make it essential and difficult for the disciplines to work together. Anthropology on public health takes a critical look at assumptions in public health praxis. Anthropology in public health will focus on ways that anthropology theory and methods inform the practice of public health. Using these three approaches, we will examine topics in public health such as mental health, health promotion/disease prevention communication, cancer disparities, reproductive health, violence and infectious disease. Students will learn and apply anthropologic research methods to these problems.

SM 527. Media, Advocacy and Public Health. (M) TBA.

This course will examine the ways in which the media can be used as a tool to improve health. It will also investigate the ways in which the media has had a negative impact on health behaviors in the population. Looking at specific topics like tobacco, food and nutrition, and HIV/AIDS, we will explore the intersection of media, advocacy, advertising and entertainment and the impact of media broadly on health behavior and society. The course will also provide students the opportunity to practice strategically working with the media to address health problems.

SM 528. (ANTH623) Class, Inequality and Health: Ethnographic Perspectives. (B) Bourgeois.

This seminar examines anthropological approaches to the concept of class and social inequality through a close reading of a dozen ethnographies that deal with a broad definition of health, illness, and social suffering. Readings span many of the theoretical, political, sub-disciplinary and area studies debates in anthropology and the larger fields of poverty, social inequality, international development, violence studies, science studies, governmentality, and social policy interventions over the past century.

529. Topics in Family Planning. (A)

Bennett, Schreiber.

This course will survey a range of key current and historic topics in family planning nationally and internationally. Policy, epidemiology, clinical practice, advocacy, and service delivery topics will be covered through presentations and conversations with leaders in the field of reproductive health. The course will provide students with a broad general introduction to family planning which is appropriate for those interested in either public health or clinical aspects of the field. For students who wish to pursue a focused career in this area this course is a necessary introduction, while students who will be working in related areas of public health will have a broad general understanding of family planning. Students will participate through an interactive seminar style and will prepare an oral presentation on a relevant topic of their choice.

530. (NURS677) Environmental Toxicology: Risk Assessment and Health Effects. (A) Liu. Undergrads need Permission.

This course presents general principles of toxicology and the disposition of toxins in the body. Case studies of the effects of environmental and occupational toxins on individuals will be analyzed. This course is designed for students who desire a strong foundation in toxicological concepts and principles and provides an overview of major toxins in our environment and their association with human health.

531. PUBLIC HEALTH NUTRITION.**SM 534. (CRIM415, CRIM615, HSOC471) Guns and Health. (A)**

Sorenson. The purpose of this course is for students to gain an understanding of the role of guns in population health. We will approach the topic with a healthy skepticism about the assumption and ideologies that dominate formal and informal discourse about the topic. We will view guns as a consumer product (and examine the life span of the product beginning with design and manufacture) and review the health outcomes of gun use. In addition, we will address key aspects of the social context in which firearms exist and within which firearm policy is made.

SM 535. (ANTH625) Urban Poverty and Violence. (M) Bourgois. This seminar examines anthropological approaches to poverty and violence through a close reading of eight ethnographies. Readings span many of the theoretical, political, sub-disciplinary and area studies debates in anthropology and the larger fields of poverty, social inequality, international development, and violence studies over the past century. My hope is to bring the subjects of urban poverty, violence, social suffering and a critique of neoliberal governmentality into the center of the disciplines of anthropology and public health specifically, and the social sciences, humanities and medicine more broadly. In the seminar we will be bringing students from anthropology, and other social science and humanities disciplines in dialogue with students in public health, science studies, and clinical medicine.

537. (HPR 610) Evidenced-Based Health Policy. (B) Gerdes, Zlotnik. Prerequisite(s): HPR 606 and PUBH 505 or permission of instructor.

Achieving Evidence-Based Health Policy examines how research can influence health policy. Individual sessions will be devoted to topics such as the NurseFamily Partnership program, health insurance, smoking, and early childhood mental health. Sessions will examine how selection of research methods may influence results; the dialectical relationship between research and policy; and the role of various stakeholders (the media, foundations, government, advocates) in both research and policy debates. Didactic topical research presentations will be followed by interactive discussions examining how research finds translates (or, as the case may be, do not translate) into policy. Guest speakers will include research and policy experts from the public and private sectors. Prerequisites are Fundamentals of Health Policy (offered through the Master's of Science in Health Policy); PUBH 505 Public Health Administration and Policy; or permission of instructor. Enrollment limited to 12.

538. (HPR 503) Qualitative Methods in Health. (L) Barg, Shea.

The purpose of this course is to expose students to a variety of qualitative approaches/methodologies that may be used in health services/policy research. In didactics we will discuss the pros and cons of various methods, explaining how the method is actually implemented (with multiple experts presenting their approaches), and pair the presentation with

a broader discussion in which we compare and contrast health oriented articles in which the method was used.

SM 539. (NURS823) DESIGNING INTERVENTIONS.

540. GO GLOBAL.

541. SOCIAL EPI.

545. Contemporary Issues in Maternal Child Health.

551. (NURS640, SWRK793) Global Health Policy and Delivery. (B) McLaughlin and Voet.

This participatory interdisciplinary seminar course examines contemporary issues in global health policy and delivery. The overall organizing framework for the class is the social determinants of health. The class will consider evidence that inequalities in education, income, and occupation influence health status. Students will develop skills in policy analysis, policy brief development, and policy impact monitoring. The public policy process will be explored using a variety of contemporary global health case studies which focus on content areas such as maternal health, HIV policy, refugee health and global healthcare delivery. Finally, we will examine the global health workforce and the impact of widespread global migration of health professionals on receiving and sending countries.

553. SCIENCE & POLI OF FOOD.

558. HEALTH & DISEASE FOR PH.

575. (SWRK775) INTIMATE VIOLENCE.

580. IMPLEMENTING THE ACA.

588. (NURS587) Advanced Leadership Skills in Community Health. (B) Margo; Klusaritz; Lipman. Prerequisite(s): Enrollment in a Masters or Doctoral program. Undergraduates with permission of the instructor.

Grounded in a social justice perspective, this course aims to provide the student with a foundational overview of the field of community health and leadership skills in public health advocacy. The course encourages critical thinking about health outcomes framed by the broad context of the political and social environment. This course analyzes the range of roles and functions carried out by leaders in healthcare advocacy for marginalized communities; integrates knowledge of health policy and the key influence of

government and financing on health outcomes; explores community-based participatory research and interventions as tools for change; and discuss ways to develop respectful partnerships with community organizations. An assets-based approach that draws upon the strengths of communities and their leaders provides a foundation for community-engagement skill building. The course emphasizes the development of skills and techniques to lead effective, collaborative, health-focused interventions for disenfranchised groups, including residents of urban neighborhoods.

589. PUB HEALTH & COG AGING.

SM 590. BGS Public Health Certificate Students' Seminar Series. (C) Nelson, Grisso. Corequisite(s): For BGS Public Health Certificate students only.

597. History of Public Health. (A) Barnes. This masters-level seminar examines the health of human populations and the science of improving it in historical perspective. Special attention is given to the city of Philadelphia as a living laboratory of public health in the past and present. Lectures, readings and discussions cover various societies' attempts to respond to and prevent disease since antiquity. Case studies focus on the roots of contemporary public health knowledge and policy in the nineteenth and twentieth centuries. Topics include responses to epidemics, the Bacteriological Revolution, racial and economic disparities in health, the development of policy infrastructures, and global health. Periodic field trips will be arranged to public health-related historical sites in Philadelphia and vicinity.

598. Immersion Experience in Global Public Health. (C) Nguyen. This independent educational experience seeks to provide motivated students with the opportunity to expand their knowledge in global health through focused experiential learning at international sites that provide direct public health services. Such learning will allow students to gain real-world experience concerning the core competencies of public health (health policy, behavior/ social sciences, environmental health, epidemiology, or biostatistics).

599. Independent Study in Public Health. (C)

601. Cancer Epidemiology and Prevention. (A) McCarthy.

Prerequisite(s): Enrollment limited to master degree or doctoral degree students only; pubh502 or permission of the instructor required. This course will provide an overview of current topics in cancer epidemiology and prevention. The course will survey cancer incidence and mortality trends in the U.S. and abroad. Several major cancer risk factors will be examined, such as tobacco exposure, diet and obesity, environmental exposures, viruses, and genetics, along with primary prevention strategies. In addition, the

course will review important concepts in cancer screening such as sensitivity, specificity, and lead time bias. Current issues in cancer screening will be discussed, along with controversies surrounding national cancer screening guidelines. In addition, the course will explore racial/ ethnic and socioeconomic disparities in cancer incidence and mortality. A main focus of the course will be how epidemiologic evidence is used to identify causes of cancer and inform cancer prevention strategies on the individual and population level.

602. EPI METHODS DIS/PREV.

603. ADV RESEARCH METHODS.

604. (SWRK781) QUAL RSRCH IN SOC SCI. (A)

605. EPI INFECTIOUS DISEASES.

701. INDUSTRIAL HYGIENE.

702. ORG & HLTH CARE MGMT.

REAL ESTATE (WH) {REAL}

204. (LGST204, LGST804, REAL804) Real Estate Law. (C) Staff.

This course examines the fundamentals of real estate finance and development from a legal perspective. The course serves as a foundation course for real estate majors and provides an introduction to real estate for other students. It attempts to develop skills in using legal concepts in a real estate transactional setting. The course will be of interest to students contemplating careers in accounting, real estate development, real estate finance, city planning, or banking. The main topics covered may include the following: land acquisition, finance; choice of entity; tax aspects; management (leasing, environmental); disposition of real property (sale of mortgaged property, foreclosures, wraparound mortgages, sale-leasebacks); and recent legal developments.

206. (BEPP206, BEPP772, REAL772, REAL972) Urban Public Policy & Private Economic Development. (B) Gilles Duranton.

This course considers a range of local policies in cities and regions. Examples include: clusters and other local development initiatives, large scale regional policies, employment zones and other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.

208. (BEPP208, BEPP708, REAL708) Housing Markets. (B) GYOURKO.

Prerequisite(s): Managerial Economics (BEPP 250) or equivalent. Lecture with discussion required.

This course is designed for students interested in the economics and operations of housing markets. It is primarily a U.S. focused course, but does include a limited amount of international material for comparative purposes. The class is divided into four sections: (1) supply and demand for housing, including the operations of homebuilders and rental landlords; (2) house prices, including cycles and price dynamics; (3) international comparisons; and (4) public policy analysis applied to a current housing markets-related issue. This course presumes knowledge of intermediate economics, as we will apply that knowledge throughout the semester. For Wharton students, this means you must have passed BEPP 250 (undergrads) or MGEC 611 and 612 for MBA's. Non-Wharton students should have taken the equivalent course in the College.

209. (FNCE209, FNCE721, REAL721) Real Estate Investment: Analysis and Financing. (C) Ferreira, Sinai, Wong, Handbury. Prerequisite(s): FNCE 100.

This course provides an introduction to real estate with a focus on investment and financing issues. Project evaluation, financing strategies, investment decision making and real estate capital markets are covered. No prior knowledge of the industry is required, but students are expected to rapidly acquire a working knowledge of real estate markets. Classes are conducted in a standard lecture format with discussion required. The course contains cases that help students evaluate the impact of more complex financing and capital markets tools used in real estate. There are case studies and two midterms, (depending on instructor).

215. (REAL724, REAL945) Urban Real Estate Economics. (C) Wachter. Prerequisite(s): FNCE 100 & 101.

Urban Real Estate Economics uses economic concepts to analyze real estate markets, values and trends. The course focuses on market dynamics in the U.S. and internationally, with an emphasis on how urban growth and local and federal government policies impact urban development and real estate pricing. A group development project gives hands on experience, and invited guest speakers bring industry knowledge. Besides the group project and presentation, problem

sets are required along with a midterm and an optional second exam.

230. (BEPP230, FNCE230) Urban Fiscal Policy. (A) Inman. Prerequisite(s): FNCE 101.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent financial crises, local services and taxes as important determinants of real estate prices, the infrastructure crises, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.

236. (BEPP236, BEPP836, REAL836) International Housing Comparisons. (B) Wachter. Prerequisite(s): FNCE 101 Monetary Economics and the Global Economy, Econ 10.

This course analyzes housing finance systems and housing market outcomes across the globe. In the US, the course focuses on the development of securitization markets and addresses the current challenges of housing finance reform, including the future of Fannie Mae and Freddie Mac. Internationally, the course covers issues of access to housing and housing informality in developing countries, financial crises arising out of the housing sector, and potential market-oriented and public policy solutions.

240. (REAL840) Advanced Real Estate Investment and Analysis. (B) Gyourko. Prerequisite(s): REAL 209.

This course is designed for majors in Real Estate, but is also open to finance-oriented students who wish a deeper analysis of real estate investment and investment analysis issues than that offered in REAL/FNCE 209. The class will contain a mixture of lectures, guest speakers and case discussions. Academic research is paired with recent industry analysis of key issues in order to marry sound theory and empirical results with current events and practices. Several classes will include lectures outlining what economics and finance tell us about a number of topics. Generally, these will be followed by guest lectures from industry professionals who will focus on a specific application of the principles introduced in the lectures.

321. (ARCH768, REAL821) Real Estate Development, (see REAL 821). (B)

399. Independent Study. (C) Staff.

All independent studies must be arranged and approved by a Real Estate department faculty member with the exception of the Annual Student Research Competition.

Annual Student Research Seminar: This class meets in the Spring semester to analyze how to conduct research in the real estate market - where to find data; how to critique research; how to frame research questions; how to write a business research report; how to present a business research report. Topics are provided each year. For more information regarding the Annual Student Research Competition see the Real Estate Department's website: <http://real-estate.wharton.upenn.edu/>.

708. (BEPP208, BEPP708, REAL208) Housing Markets. (B) GYOURKO.

Prerequisite(s): Microeconomics for Managers (MGEC 611) and Microeconomics for Managers (Advanced) (MGEC 612) or equivalent. Lecture with discussion required.

This course is designed for students interested in the economics and operations of housing markets. It is primarily a U.S. focused course, but does include a limited amount of international material for comparative purposes. The class is divided into four sections: (1) supply and demand for housing, including the operations of homebuilders and rental landlords; (2) house prices, including cycles and price dynamics; (3) international comparisons; and (4) public policy and analysis applied to a current housing markets-related issue. This course presumes knowledge of intermediate economics, as we will apply that knowledge throughout the semester. For Wharton students, this means you must have passed BEPP 250 (undergrads) or MGEC 611 and 612 for MBA's. Non-Wharton students should have taken the equivalent course in the College.

721. (FNCE209, FNCE721, FNCE944, REAL209, REAL944) Real Estate Investment: Analysis and Financing. (C) Ferreira, Sinai, Wong, Handbury.

Prerequisite(s): FNCE 611 or FNCE 612. Lecture with discussion required.

This course provides an introduction to real estate with a focus on investment and financing issues. Project evaluation, financing strategies, investment decision making and real estate capital markets are covered. No prior knowledge of the industry is required, but students are expected to rapidly acquire a working

knowledge of real estate markets. Classes are conducted in a standard lecture format with discussion required. The course contains cases that help students evaluate the impact of more complex financing and capital markets tools used in real estate. There are case studies and two mid-terms, (depending on instructor). Cross-listed with FNCE 721.

723. INTRODUCTION TO REAL ESTATE. (C) Sinai. WEMBA COURSE.

724. (REAL215, REAL945) Urban Real Estate Economics. (C) Wachter.
Prerequisite(s): MGEC 621, Managerial Economics. Lecture.

Urban Real Estate Economics uses economic concepts to analyze real estate markets, values, and trends. The course focuses on market dynamics in the U.S. and internationally, with an emphasis on how urban growth and local and federal government policies impact urban development and real estate pricing. A group development project gives hands on experience, and invited guest speakers bring industry knowledge. Besides the group project and presentation, problem sets are required along with a midterm and optional second exam.

730. (BEPP773, FNCE730) Urban Fiscal Policy. (A) Inman. Prerequisite(s): MGEC 621. Lecture, discussion.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crises, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.

772. (BEPP206, BEPP772, REAL206, REAL972) Urban Public Policy & Private Economic Development. (B)

Gilles Duranton. Prerequisite(s): Microeconomics, basic familiarity with Statistics.

This course considers a range of local policies in cities and regions. Examples include: clusters and other local development initiatives, large scale regional policies, employment zones and

other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.

804. (LGST204, LGST804, REAL204) Real Estate Law. (C) Staff. Although some of the material is presented by lecture, the instructor expects considerable class participation.

This course examines the fundamentals of real estate finance and development from a legal perspective. The course serves as a foundation course for real estate majors and provides an introduction to real estate for other students. It attempts to develop skills in using legal concepts in a real estate transactional setting. The course will be of interest to students contemplating careers in accounting, real estate development, real estate finance, city planning, or banking. The main topics covered may include the following: land acquisition, finance; choice of entity; tax aspects; management (leasing, environmental); disposition of real property (sale of mortgaged property, foreclosures, wraparound mortgages, sale-leasebacks); and recent legal developments. Format: Although some of the material is presented by lecture, the instructor expects considerable class participation. Cross-listed with LGST 804.

821. (ARCH768, REAL321) Real Estate Development. (B) Nakahara.
Prerequisite(s): REAL/FNCE 721. The prerequisite is STRICTLY enforced for this class unless it is undersubscribed. Predominately case analysis, discussion, some lectures, and project visits.

This course evaluates "ground-up" development as well as re-hab, re-development, and acquisition investments. We examine raw and developed land and

the similarities and differences of traditional real estate product types including office, R & D, retail, warehouses, single family and multi-family residential, mixed use, and land as well as "specialty" uses like golf courses, assisted living, and fractional share ownership. Emphasis is on concise analysis and decision making. We discuss the development process with topics including market analysis, site acquisition, due diligence, zoning, entitlements, approvals, site planning, building design, construction, financing, leasing, and ongoing management and disposition. Special topics like workouts and running a development company are also discussed. Course lessons apply to all markets but the class discusses U.S. markets only. Throughout the course, we focus on risk management and leadership issues. Numerous guest lecturers who are leaders in the real estate industry participate in the learning process. Format: predominately case analysis and discussion, some lectures, project visits.

836. (BEPP236, BEPP836, REAL236) International Housing Comparisons. (B) Wachter. Prerequisite(s): FNCE 613 Macroeconomics and the Global Economic Environment.

This course analyzes housing finance systems and housing market outcomes across the globe. In the US, the course focuses on development of securitization markets and addresses current challenges of housing finance reform, including the future of Fannie Mae and Freddie Mac. Internationally, the course covers issues of access to housing and housing informality in developing countries, financial crises arising out of the housing sector, and potential market-oriented and public policy solutions.

840. (REAL240) Advanced Real Estate Investment and Analysis. (B) Gyourko. Prerequisite(s): REAL/FNCE721. This course, is designed for majors in Real Estate, but is also open to finance-oriented students who wish a deeper analysis of real estate investment and investment analysis issues than that offered in REAL/FNCE 721. The class will contain a mixture of lectures, guest speakers and case discussions. Academic research is paired with recent industry analysis of key issues in order to marry sound theory and empirical results with current events and practices. Several classes will include lectures outlining what economics and finance tell us about a number of topics. Generally, these will be followed by guest lectures from industry professionals who will focus on a specific application of the

principles introduced in the lectures. Format: Lecture, industry speakers.

SM 890. (REAL390) International Real Estate Comparisons. (A) Staff. Prerequisite(s): REAL/FNCE 721 or comparable knowledge/work experience. This class is offered in the second half of the semester.

As a truly non-U.S. focused course, we explore the world of cross-border real estate development, with a focus on fast growing emerging market economies. Topics will emphasize the importance of strategy and implementation in cross-border real estate investment and include: the rationale, opportunities and risks of international real estate investing; the macro factors that influence the performance of real estate markets across countries; market specific factors that impact RE investment performance (property rights, taxes, transparency, planning procedures); the qualitative aspects of identifying and achieving successful projects; and the growing market for international RE securities and strategies for portfolio management. Classes will combine a lecture on specific aspects of global cross-border RE in the first half of the class and international case presentations in the second half. Cases will be presented by leading executives in charge of major international RE projects or funds. Cases have been selected to cover different types of RE development- residential, office, retail, hospitality and logistics- important emerging market countries/continents (East/South Asia, Latin America, Sub-Saharan Africa, the Middle East) and different development and investment strategies.

891. (REAL396) Real Estate Entrepreneurship. (A) Staff. Offered in the first half of the semester.

What makes a successful entrepreneur in the real estate industry? This half semester mini-course exposes undergraduates and MBA students to the broad entrepreneurial aspects of creating and executing real estate investments. The course consists of lectures by the professor, case discussions and guest lectures by leading entrepreneurs. Lectures and discussions will emphasize real estate entrepreneurship, leadership and challenges often encountered in creating successful real estate investments rather than development processes. Cases will be used to illustrate investment decision-making and financial evaluations. Short written responses to questions raised in each case will be assigned. Class members are expected to engage the speakers with questions and discussion as well as explain

their views on cases. Class participation and writings will each represent 50% of the grade.

899. Independent Study. (C) Staff.

All independent studies must be arranged and approved by a Real Estate Department faculty member with the exception of the Annual Student Research Competition. Annual Student Research Seminar: This class meets in the Spring semester to analyze how to conduct research in the real estate market, where to find data; how to critique research; how to frame research questions; how to write a business research report; how to present a business research report. Topics are provided each year. For further information regarding the Annual Student Research Competition see the Real Estate department's website: <http://real-estate.wharton.upenn.edu/>

SM 900. Real Estate Proseminar. (C) Staff.

Real estate is a rapidly changing and evolving field. Traditional course offerings are not always able to incorporate the most recent advances in the many areas that make up the field of real estate. In this course, the participants - both faculty and students - research and present current topics and recent advances in real estate. The content will vary depending on the participants' interests and areas of expertise, but will typically cover urban economics, spatial issues, the economics of housing and commercial real estate markets, and real estate finance and investment.

This course is intended to expand students' awareness of current topics in real estate and to prepare them to conduct their own academic quality research. The proseminar is organized as a series of lectures by faculty and students on topics of their own choosing. These lectures may involve well-known areas of knowledge, research, and methodology, as well as subjects currently under study. The main course requirements are preparing and presenting a series of lectures on a real estate topic (subject to the organizing faculty member's approval) and writing a research proposal that describes a workable project building upon or extending one of the topics covered in the course.

944. (FNCE721, FNCE944, REAL721) Real Estate Investment: Analysis and Financing. (C) Ferreira, Sinai, Wong, Handbury. Prerequisite(s): FNCE 611 or FNCE 612.

This course provides an introduction to real estate with a focus on investment and financing issues. Project evaluation, financing strategies, investment decision

making and real estate capital markets are covered. No prior knowledge of the industry is required, but students are expected to rapidly acquire a working knowledge of real estate markets. Classes are conducted in a standard lecture format with discussion required. The course contains cases that help students evaluate the impact of more complex financing and capital markets tools used in real estate. There are case studies and two mid-terms, (depending on instructor).

All PhD students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.

945. (REAL215, REAL724) Urban Real Estate Economics. (C)

WACHTER. Prerequisite(s): MGEC 601.

Urban Real Estate Economics uses economic concepts to analyze real estate markets, values, and trends. The course focuses on market dynamics in the U.S. and internationally, with an emphasis on how urban growth and local and federal government policies impact urban development and real estate pricing. A group development project gives hands on experience, and invited guest speakers bring industry knowledge. Besides the group project and presentation, problem sets are required along with a midterm and optional second exam.

All PhD students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.

946. Advanced Topics in Urban Economics. (C)

FERREIRA, DURANTON. Prerequisite(s): The course assumes that students have familiarity with standard first year econometrics and microeconomics. All PhD students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.

This course addresses advanced topics in urban and real estate economics. The course will mix theory and empirics and will cover a broad range of topics including the modeling and estimation of agglomeration economies, land use and urban costs, transportation in cities, urban growth, migration between cities etc. The classes will mix formal presentations made by the instructor and student-led discussions of recent academic papers. In addition to presentations, students will be expected to complete a series of assignments including a short original research paper.

947. Advanced Real Estate and Urban Economics. (C) Ferreira.

This course covers fundamental and cutting-edge topics in urban economics and real estate as well as the most important econometric issues that arise in the estimation of urban economics and real estate models. The first part of the course focuses on the application of modern econometric methods to analyze empirical questions in the broad urban economics field, which includes topics from public economics and local finances, such as household sorting and valuation of public goods. This part of the course is especially concerned about dealing with non-experimental data, and also provides a guide for tools that are useful for applied research. The second and third parts of the course examine the economic modeling and intuition of a range of topics in urban economics and real estate, such as spacial equilibrium, supply and demand of space, housing prices and cycles. In addition, special emphasis is given to how the understanding of economic theory and institutions can help any empirical analysis. At the end of the course students should have a firm grasp of theory and econometric tools that lead to convincing empirical applications.

All Ph.D. students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.

SM 962. (BEPP962) Applied Economics Seminar. (F) Fernando

Ferreira. Prerequisite(s): None.

The goal of this course is to help doctoral students develop critical thinking skills through both seminar participation and writing of referee reports. To this end students will attend the Wharton Applied Economics each Wednesday at noon seminar when it meets; prepare two written referee reports on WAE papers per semester, due before the seminar is presented. After attending the seminar and the ensuing discussion of the paper, students will prepare follow-up evaluations of their referee report reports, due one week after the seminar.

972. (BEPP206, BEPP772, REAL206, REAL772) Urban Public Policy & Private Economic Development. (B)

DURANTON. Prerequisite(s):

Microeconomics, basic familiarity with Statistics.

This course considers a range of local policies in cities and regions. Examples include: clusters and other local development initiatives, large scale

regional policies, employment zones and other targeted policies. More traditional urban policies such as zoning and planning and constraints, transportation pricing, and parking policies among many others will also be considered. Practical examples will be extremely diverse and include the Silicon Valley and attempts to copy it, the Tennessee Valley Authority, housing restrictions in developing countries such as Brazil, congestion pricing in London, etc. Students will be expected to actively participate and make presentations. The course emphasizes the importance of the economic context, the understanding of the underlying rationale for policies, and how the private agents respond to public incentives. The main learning goals are the following: be able to use simple empirical tools of economic evaluations, be able to articulate a critical analysis of competing viewpoints and assessments, and be able to integrate various analytic steps into an overall assessment of economic policies that relies on sound principles and is well argued.

All PhD students will be expected to complete a research paper in addition to the examination requirements.

973. Urban Fiscal Policy. (A) Inman.

Prerequisite(s): MGEC 621.

The purpose of this course is to examine the financing of governments in the urban economy. Topics to be covered include the causes and consequences of the urban fiscal crisis, the design of optimal tax and spending policies for local governments, funding of public infrastructures and the workings of the municipal bond market, privatization of government services, and public financial systems for emerging economies. Applications include analyses of recent fiscal crises, local services and taxes as important determinants of real estate prices, the infrastructure crisis, financing and the provision of public education, and fiscal constitutions for new democracies using South Africa as an example.

All PhD students will be expected to complete a research paper in addition to the successful completion of the course examination requirements.

990. Masters Thesis. (C)

999. Independent Study. (C)

RELIGIOUS STUDIES (AS) {RELS}

SM 013. (EALC022) Gods, Ghosts, and Monsters. (A) Humanities & Social Science Sector. Class of 2010 & beyond. McDaniel.

This course seeks to be a broad introduction. It introduces students to the diversity of doctrines held and practices performed, and art produced about "the fantastic" from earliest times to the present. The fantastic (the uncanny or supernatural) is a fundamental category in the scholarly study of religion, art, anthropology, and literature. This course will focus both theoretical approaches to studying supernatural beings from a Religious Studies perspective while drawing examples from Buddhist, Shinto, Christian, Hindu, Jain, Zoroastrian, Egyptian, Central Asian, Native American, and Afro-Caribbean sources from earliest examples to the present including mural, image, manuscript, film, codex, and even comic books. It will also introduce students to related humanistic categories of study: material and visual culture, theodicy, cosmology, shamanism, transcendentalism, soteriology, eschatology, phantasmagoria, spiritualism, mysticism, theophany, and the historical power of rumor.

It will serve as a gateway course into the study of Religion among numerous Asian, and East Asian Studies, as well as Visual Culture and Film Studies. It will include guest lectures from professors from several departments, as well as an extensive hands-on use of the collections of the Penn Museum of Archaeology and Anthropology and the manuscripts held in the Schoenberg Collection of Van Pelt Library. It aims to not only introduce students to major, approaches, and terms in the study of religion and the supernatural, but inspire them to take more advanced courses by Ilya Vinitsky, Liliane Weissberg, Projit Mukharji, Talya Fishman, Annette Reed, David Barnes, David Spafford, Frank Chance, Michael Meister, Paul Goldin, Renata Holod, Paul Rozin, among several others.

SM 021. Religion in the African Diaspora. Battle.

This introductory course examines the practices, beliefs, and deities within African-based religions in the United States and the Caribbean. While television shows such as American Horror Story presented African gods and their worshippers in pejorative ways, this course seeks to dispel these caricatures. The course will include Cuban Lukumi (Santería), Brazilian

Candomblé, Haitian Vodou, and other traditional African Religions in African Diaspora. Special attention will be paid to gender, ritual, and performance, and the growth of these religions in the United States in immigrant communities and the African American community. Film clips and YouTube videos will accompany our readings and fuel our discussion. Course requirements will include regular participation, readings, short response papers, quizzes, and a final research paper.

028. RELIGION IN AMERICA.

SM 030. Gurus, Prophets & Aliens: Understanding New Religious Movements. Tavor.

This course offers a thematic introduction to the history of New Religious Movements (NRM) from the mid-19th century to the present day. Often labeled as "cults" by the state and established religious institutions, new religions offer modern believers alternative spiritual and ideological solutions to age-old problems. In this class, students will be introduced to the teachings and practices of prominent NRMs in North America, Europe, Asia, and Australia, from wide-spread movements such as Scientology, Mormonism, and the Unification Church to lesser known groups such as the Church of the Almighty God, Neo-Paganism, and Raelism. We will explore the emergence of the anti-cult campaign in the second half of the 20th century, the relationship between apocalyptic sects such as the Peoples Temple and the Branch Davidians and political and social protest, and the role of Asian religions such as the Maharishi Mahesh Yogi's Transcendental Meditation in the development of New Age religiosity. In addition, we will learn how new religious movements such as Wicca and the Children of God helped reshape gender roles and changed mainstream views about sexuality, and how developments in mass media and popular culture contributed to the creation of new groups such as the Star Wars inspired Temple of the Jedi Order (Jediism), the Church of the Latter-Day Dude (Dudeism), as well as UFO religions such as Heaven's Gate.

Throughout the semester, students will be exposed to a wide variety of primary and secondary sources, from academic articles and scholarly essays to documentaries, feature films, and TV shows. No previous knowledge in Religious Studies is required.

SM 031. Religion and Violence.

Perhaps nothing haunts modern politics more than religious violence. Killing sprees done in the name of God reveal the

limits of political power. What space is left for the rule of law when appeals to dogma and the divine supersede reason? The causes and nature of divinely motivated violence are so mystifying that they are a constant topic of debate among academics, political parties, and news commentators. What really motivates religious violence? Is it just economic of class grievances in disguise? Are all religions prone to violence? Are some religions more violent than others? Or, are religions only violent when they go awry, denying their true messages? And does religion need to be quarantined and privatized, to keep us all safe? In this course, we'll probe the dividing line separating religion from politics in an effort to better understand the causes and nature of religious violence. How do we know the difference between religious violence and political violence? What makes religion violent, and what makes violence religious?

032. RELIGION AND VIOLENCE.

091. (ANTH082, ENGL082) Native American Literature. (M) Powell.

From oral traditions to YouTube videos of Native American hip hop, this course surveys the diverse body of Native American literature through its many transformations across the centuries. The course will focus primarily on contemporary Native American literature, an era known as the Native American Renaissance. We will read literary works by Black Elk, Leslie Marmon Silko, Sherman Alexie, N. Scott Momaday, and others. The course will also include films such as Smoke Signals and Whale Rider.

SM 149. (RELS549, SAST102, SAST502) The Mullah & The Englishman - Islam in Modern South Asia. (A) Sevea.

This course introduces students to Islam in modern South Asia, with a particular focus on the development of 'new' Muslim religious idioms, orientations, pedagogies and movements in 19th and 20th century South Asia. This course is divided into three parts. In the first part of this course, students are provided with an overview of: Muslim institutions and spaces in pre-colonial South Asia, the historical emergence of South Asia as a prominent global center of Islam, and the development of Urdu as an Islamic idiom. The second and main part of this course introduces students to academic literature concerning sophisticated encounters between the Muslim elite in north India and modern political and technological developments. The intimate interactions of the 'Mullah'

and the 'Englishman' from the 19th to 20th century will thus be revealed to students. This part focuses upon, on the one hand, the role of Islam and pious Muslims in the colonial army, and on the other hand, Muslim initiatives to educate an Islamic 'modernism', 'traditionalism', 'fundamentalism' and 'Sufism', and appropriate print technologies for the creation of public spheres. Students will be introduced to historical scholarship revelatory of how these Muslim pedagogies and print initiatives were based upon sophisticated transcultural networks and exchange.

In the third part of this course, students will be encouraged to engage with contemporary literature on South Asian Muslim political philosophy and nationalism, and the transcultural intellectual exchanges that produced key Muslim political ideologies.

172. (EALC008) EAST ASIAN RELIGIONS.

SM 191. (ENGL264) Multicultural American Literature and Spirituality. Tim Powell.

This course will focus on the Multicultural Renaissance (1980-2000) when literary masterpieces appeared from African American, Native American, Asian American, and Latina/o writers such as Toni Morrison, Leslie Marmon Silko, Maxine Hong Kingston, and Rudolfo Anaya. As these writers were accepted into the canon of "American Literature," they forced the country to rethink the myth of the Manifest Destiny by updating ancient stories of Buddhism, Native American ceremonies, African religions, brought over on slave ships, and the unique blend of Christianity and indigenous spirituality that animates Mexican American Catholicism. In the 21st century, the Multicultural Renaissance continues, albeit in new forms. Television shows like "Orange is the New Black" and "Ru Paul's Drag Race" make visible and empower LGBT cultures; "Catfish" explores how cultural identities become ever more fluid in the age of the internet. Stand up comedians Key & Peel, Margaret Cho, and Ahmed Ahmed explore issues of religion, race, ethnicity, sexuality. This course will unfold against the backdrop of the 2016 election, as issues of cultural diversity divide the country, even as it becomes ever more multicultural.

SM 230. (JWST230) TOPICS IN EUROPEAN HIST. (C)

SM 231. (JWST233) JESUS AND JUDAISM. (M)

SM 232. READING THE APOSTLE PAUL. (M)

244. (JWST244) From Miracles to Mindfulness. Steve Weitzman and Phil Webster.

In 1902, the most famous philosopher in America, William James, revolutionized the study of religion by analyzing religion as an experience rather than as a set of doctrines or scriptures. In this course, we will pick up the inquiry that James and scholars such as Sigmund Freud began by exploring new approaches to the science and philosophy of religious experience. We will invite a series of experts from a wide range of fields: neuroscience, psychoanalysis, phenomenology, psychology, anthropology, to name only a few to present their cutting-edged research on the nature of religious experience. How can religious experience be studied? What does the research reveal about religious experience? And what can we learn from such experiences about the workings of the human mind and human society? The course has two components: 1) a discussion-centered mini-seminar from 3:30-5:00 will open consideration of the subject with help from relevant readings 2) a guest lecture series every Tuesday from 5:00-6:30, featuring leading scholars who approach religious experience from different disciplinary angles or in light of different questions.

251. (SAST250) History of Hinduism. Sreenivasan.

This course will explore the history of the religion(s) designated by the term 'Hinduism' from their earliest articulations down to the rise of modern reforms in the nineteenth century. The study of Hinduism is perhaps unique among the scholarly traditions on world religions in that it has to date had no serious connected account of its historical development, as scholars have preferred to take structural, sociological, phenomenological, and doctrinal approaches to the religion. The course, after a brief review of scholarly approaches to Hinduism and their interpretive legacies, will seek to develop a historical sense of the religion through attention to shifts in liturgy, ritual, theology, doctrine, sacred kingship, and soteriology. The course will include the reading of primary sources relevant to understanding these changes as well as highlight both modern and premodern traditions of their interpretation. It will also consider and assess some of the key interpretive ideas in the study of Hinduism, including, Sanskritization, Great and Little Traditions, cult formation, regional and popular religious movements,

and canon formation. There will also be sustained consideration of the question of religion and socio-political power as well as relations between Hinduism and other religions like Buddhism and Islam.

SM 259. (JWST249) ULTIMATE MEANINGS. Arts & Letters Sector. All Classes. Weitzman.

Does life have some ultimate meaning? In their search for an answer to this question, people tell stories-- stories about the creation of the world, about great human beings confronted with the mysteries of existence, about what happens to people after death. To explore the role of stories in finding meaning in life, we will focus on some of the most meaningful stories ever composed: the biblical stories of Adam and Eve, Abraham and his family, the Exodus, Job and his friends, and the life and death of Jesus. One of our goals is to try to retrieve the original meaning of these narratives, what their authors intended, but we will also explore what they have come to mean for readers in our own day for believers and skeptics, scientists and artists, fundamentalists and feminists.

267. FOOD & RELIGION.

SM 273. (EALC036) Buddhist Literature. McDaniel.

This course seeks to introduce students to the diversity of texts, textual practices, and textual communities in Buddhist Asia. We will look at cosmological, historical, narrative, psychological, grammatical, magical, didactic, and astrological genres to gain an understanding of how Buddhist writers from various places and times have expressed their views on the inner workings of the mind, the nature of action, the illusion of phenomena, the role of the ethical agent, the origin of chaos, the persistence of violence, the contours of the universe, and the way to Enlightenment.

SM 329. (NELC350, NELC650, RELS629) Wisdom in the Hebrew Bible. (A) Crantz.

SM 335. St. Paul and his interpreters. Webster.

SM 343. (NELC330) Islam in Eurasia. (M) Garipova.

This course will explore the historical development of Islam in Central Eurasia from its origins until the present day. Islam in this region has centuries-long presence and a rich variety of traditions and practices. The aim of this course is to show that Islam in various parts of this larger region - Central Asia, North

Caucasus and Transcaucasia, the Crimea, the Kazakh steppe and the Volga-Ural region was not a homogenous, static, and dogmatic creed. Rather, it presents a variety of Muslim identities and practices shaped by specific religious institutions within the context of their particular interaction with the state. The Russian imperial rule made Islam function in a qualitatively different environment, provided a new context for mutual impact of Muslim peoples on each other, transformed old and created new religious institutions which led to religious change. We will analyze Islamic institutions and their relations with state structures as well as the impact this interaction had on the religious authority of the ulama, Islamic law and society.

SM 346. (NELC386) Islamic Law and Modernity. Garipova.

This course will focus on the development of Islamic law in the modern context. The functioning of traditional Islamic law (shari'a) in pre-modern times substantially from its counterpart in the nineteenth and twentieth centuries. Imperial, colonial and modern states in different geographies had a transformative impact on the practice of shari'a, replacing the traditional order and institutions in which sharia formed and developed with the new ones. In different contexts, intervention and pressure of states produced different outcomes for the communities and for those who represented traditional legal authority. We will analyze legal developments in various geographies with a focus on both state policies and local responses. We will also look at how Muslims understood shari'a in the twentieth century, how they employed it as ideology and how they tried to rethink its relevance in the contemporary time.

SM 352. (JWST353, NELC352) Jewish Political Thought & Action. (M) Fishman.

Weekly seminar explores expressions of Jewish political thought--and, where possible, political action-- from biblical times to the present. Themes include the leadership of biblical priests, prophets and kings; covenant as the basis of the theocratic polity the status of outsiders in biblical and rabbinic societies; constructions of political authority; changing understandings of Jewish "nationhood"; messianism; medieval Jewish ruminations on ideal government; the non-sovereign Jewish community's relationship to rulers; manifestations of Jewish communal autonomy; tensions between rabbinic and lay leadership; biblical Israel as a model for governance in

early modern political thought; debates over Jewish Emancipation; expressions of Jewish socialism; varieties of pre-state Zionist thought; contemporary messianic Zionism; contemporary manifestations of Jewish political concerns. Primary sources (English translation) include readings from Hebrew Bible, ancient rabbinic texts, Jewish communal decrees, Moses Maimonides and other medieval Jewish thinkers; Baruch Spinoza, Moses Mendelssohn, Ber Barochov, Theodor Herzl, Martin Buber, Rabbi Abraham Isaac Kook, Yeshayahu Leibovitz and contemporary writers. One session will take place in the Rare Book Room of Van Pelt Library. No prior knowledge is assumed.

SM 370. Corpse as Material Culture in the Study of Religion. Toulson.

SM 446. (HIST446) Digital Humanities. Tim Powell.

Penn recently opened the Price Lab for Digital Humanities as part of the university's new strategic plan, so it is a very exciting moment for DH at Penn. This class might be considered an advanced introduction to the relatively short history of DH. It will focus on one of the questions that has vexed the field from the beginning: Why are the Digital Humanities So White? as Tara McPherson put it rather bluntly in a chapter of *Debates in the Digital Humanities*. The class will provide an overview of some of the foundational texts of DH, but the primary focus of the class will be involving students in a new DH project to construct an interactive timeline, built in Omeka. The spatio-temporal timeline seeks to represent Iroquois history as seen from the perspective of Iroquois scholar and Faithkeeper, Richard Hill. Hill is the director of the Deyohahage: Indigenous Knowledge Centre on the Six Nations reserve in the Grand River region of Ontario and one of the most highly regarded traditional knowledge keepers of his generation, so it is a great honor to be able to work with him.

On a more theoretical level, the class will be addressing the relationship between cultural codes and digital codes. In other words, how to represent Iroquois spiritual history (i.e., mythical events) on a chronological timeline? How to represent indigenous space on maps created by the people who colonized the Iroquois (e.g., the boarder between Canada and the US cuts the Iroquois traditional homeland in half)? Students will learn how to evaluate a complex and challenging project like this, which is still in its earliest stages. On a more practical level, students will learn

skills in the exhibit building software Omeka. The class will engage many different forms of history from archival documents to You Tube videos, in its study of how digital technology makes it possible to represent the indigenous oral tradition much more accurately than is possible on the printed page.

SM 471. Religion in Eleven Objects. Justin McDaniel.

This advanced course for Religious Studies majors and minors approaches the study of religion through material objects. By looking at both sacred and everyday objects like rosaries melted in atomic blasts, magical amulets used in healing rituals, temple murals defaced by invading armies, manuscript stained by hold water, we will explore the many ways people express their spiritual aspirations and existential fears through objects. Not only will a different object from a variety of religious traditions be examined each week (eleven in total), but we will also explore different methodological and theoretical approaches to the study of religion. Psychological, phenomenological, bio-genetic, sociological, art historical, discursive, post-modern, and narrative approaches will be discussed.

498. ADVNCD RESEARCH PROJECT. (C)

540. (JWST541) DAVID AND SOLOMON.

SM 549. (RELS149, SAST102, SAST502) The Mullah & The Englishman - Islam in Modern South Asia. (C) Sevea.

This course introduces students to Islam in modern South Asia, with a particular focus on the development of 'new' Muslim religious idioms, orientations, pedagogies and movements in 19th and 20th century South Asia. This course is divided into three parts. In the first part of this course, students are provided with an overview of: Muslim institutions and spaces in pre-colonial South Asia, the historical emergence of South Asia as a prominent global center of Islam, and the development of Urdu as an Islamic idiom. The second and main part of this course introduces students to academic literature concerning sophisticated encounters between the Muslim elite in north India and modern political and technological developments. The intimate interactions of the 'Mullah' and the 'Englishman' from the 19th to 20th century will thus be revealed to students. This part focuses upon, on the one hand, the role of Islam and pious Muslims in the colonial army, and on the other hand,

Muslim initiatives to educate an Islamic 'modernism', 'traditionalism', 'fundamentalism' and 'Sufism', and appropriate print technologies for the creation of public spheres. Students will be introduced to historical scholarship revelatory of how these Muslim pedagogies and print initiatives were based upon sophisticated transcultural networks and exchange.

In the third part of this course, students will be encouraged to engage with contemporary literature on South Asian Muslim political philosophy and nationalism, and the transcultural intellectual exchanges that produced key Muslim political ideologies.

SM 551. (SAST550) History of Hinduism. Ali.

This course will explore the history of the religion(s) designated by the term 'Hinduism' from their earliest articulations down to the rise of modern reforms in the nineteenth century. The study of Hinduism is perhaps unique among the scholarly traditions on world religions in that it has to date had no serious connected account of its historical development, as scholars have preferred to take structural, sociological, phenomenological, and doctrinal approaches to the religion. The course, after a brief review of scholarly approaches to Hinduism and their interpretive legacies, will seek to develop a historical sense of the religion through attention to shifts in liturgy, ritual, theology, doctrine, sacral kingship, and soteriology. The course will include the reading of primary sources relevant to understanding these changes as well as highlight both modern and premodern traditions of their interpretation. It will also consider and assess some of the key interpretive ideas in the study of Hinduism, including, Sanskritization, Great and Little Traditions, cult formation, regional and popular religious movements, and canon formation. There will also be sustained consideration of the question of religion and socio-political power as well as relations between Hinduism and other religions like Buddhism and Islam.

SM 586. History of Islam in Asia. Robb.

This class looks at the history of Islam across South Asia, East Asia, and Southeast Asia with a focus on the last three centuries. Contrary to the popular perception that the Middle East defines Islam, Asia has been the source of some of Islam's most important social and reform movements. Students will contrast different Muslim societies over the last three centuries, examine points of

confluence for geographically- or culturally-distinct Muslim peoples, and in their writing assignments focus on the history of one society in a wider Islamic context.

SM 617. (AFRC640, COMM740) Proseminar in Africana Studies. (E)

Beavers, Butler, Charles, Jackson, Savage, Thomas, Zuberi.

This course focuses on the historical and cultural relationship between Africans and their descendants abroad.

SM 629. Wisdom in the Hebrew Bible. (M) Crantz.

SM 632. (SAST632) HINDUISM&COLONIAL MDRNTY. (C)

This seminar deals with the question of modernity in South Asia, with a specific focus on the construction, dissemination, and politicization of Hinduism in nineteenth and twentieth century India. It focuses on three central heuristic lenses--namely those of European imperialism, Orientalism, and nationalism--to study modernity and its discontents. What was at stake in the encounter between colonial modernity and India's religions in nineteenth and early twentieth centuries? How did colonial and native discourses on "reform" and "revival" shape Indian religions as we understand them today? How is modern "Hinduism" inextricably hinged to early forms of cultural transnationalism, Orientalism, and incipient forms of nationalism? This seminar approaches questions such as these and others, with an eye to understanding how nineteenth and early twentieth century discourses continue to shape contemporary understandings of Hinduism in deep and highly politicized ways.

SM 643. (RELS743, SAST633) The Persian Intellectual Tradition. (M) Elias.

What makes Persian culture distinctive within broader Islamic intellectual history, and what constitutes the historical and geographical boundary of the Persianate intellectual and cultural zone? These questions lie at the center of inquiry in this seminar in which participants will read and discuss a broad range of works from the 11th to the 20th centuries. Readings will include works on philosophy and language, Sufi epic poems, religious and cultural geographies, accounts of natural and manufactured wonders, urban and political histories, as well as other kinds of texts. All readings will be in English for the regular meeting of the seminar; students with a reading knowledge of Persian and an

interest in participating in an additional meeting to read the assignments in their original language should register for the higher of the two numbers listed for this course.

SM 670. (SAST640) Religious Bodies and Sex in South Asia. (C) Sevea.

This graduate-level course introduces students to the writings of key religious scholars in modern South Asia who associated the regeneration of Hinduism, Islam, and Sikhism with the cultivation of bodies and sexual practices. Particular attention will be paid towards religious texts produced in modern India, Pakistan and Bangladesh pertaining to sexual bodies, exercises and health; celibacy; body-building; the transmission of sexual knowledge; and the political roles of the 'Hindu', 'Muslim' and 'Sikh' body. In this course, students will be encouraged to engage a range of sources including religious manuals, autobiographies, novels, speeches, pamphlets, official records, recipes and films. Moreover, students will be introduced to the academic literature on South Asian religious scholars and 'sex gurus' in South and Southeast Asia; religious sexuality in South Asia, Southeast Asia, the Middle East and Europe; and, the transcultural literary networks that led to the production of religio-sexual texts in modern South Asia.

SM 702. (ARTH740, SPAN630) Topics in Medieval Art. (M) Guerin.

Spring 2017: For the Christians of Medieval Europe, pilgrimages were one of the key embodied experiences of faith. Reliquaries, churches with their welcoming portals, manuscripts and music: all were crafted to augment the corporeal experience of the divine. This seminar will take the material culture surrounding the relic and its veneration as a lens for exploring the Middle Ages, from the Early Christian to the High Gothic. Cross-disciplinary methodologies and cross-cultural examples will be considered to advance our understanding of these phenomena. While proceeding chronologically, each week will focus on a distinct strategy for shaping the interaction between faith and matter.

SM 743. (NELC713, RELS643, SAST633) The Persian Intellectual Tradition. Elias. Prerequisite(s): To take course as RELS743 prior knowledge of Persian is required.

What makes Persian culture distinctive within broader Islamic intellectual history, and what constitutes the historical and geographical boundary of the Persianate intellectual and cultural zone? These

questions lie at the center of inquiry in this seminar in which participants will read and discuss a broad range of works from the 11th to the 20th centuries. Readings will include works on philosophy and language, Sufi epic poems, religious and cultural geographies, accounts of natural and manufactured wonders, urban and political histories, as well as other kinds of texts. All readings will be in English for the regular meeting of the seminar; students with a reading knowledge of Persian and an interest in participating in an additional meeting to read the assignments in their original language should register for the higher of the two numbers listed for this course.

745. VISUAL CULTURES IN ISLAM.

SM 771. READINGS PALI BUDDHISM. Justin McDaniel.

This course is an intensive reading course in Pali literature from South and Southeast Asia. Students who wish to take the course must have at least 3 years of Sanskrit and a knowledge of at least one Southeast Asian language. Reading will be in philosophical, narrative, magical, medical, historical, and ritual texts.

SM 773. (EALC705, SAST674) Southeast Asian Manuscript Traditions. (M) McDaniel.

This is an advanced PhD seminar in which the students will need advanced proficiency in Pali and at least one Southeast Asian Language (Burmese, Thai, Khmer, Lao, Leu, Khmer, Shan, and/or Lanna). Original manuscripts from Penn's collection of Southeast Asian religious, medical, botanical, historical, art, and literary archives will be examined and discussed.

Comparative Religion

L/R 001. (EALC004) Religions of Asia. (C) History & Tradition Sector. All classes. Vose.

Summer 2012 Description: This course is an introduction to the religious traditions of Southern and Eastern Asia. It surveys the beliefs, rituals, and thought of major traditions-Hinduism, Buddhism, Confucianism, Taoism-and less well known traditions-Jainism, Zoroastrianism, Sikhism, Shintoism. The focus of the course will be on the lived experience of each tradition, looking at the worldviews, motives and aspirations of religious figures. Further, we will trace historical developments by examining moments of sharing and contestation of religious, political, and social ideas between traditions in order to question their

boundaries and integrity. Special emphasis is placed on the role of the visual in each religious culture. As religions often do not draw the same boundaries between the sacred and profane as western traditions do, we will also interrogate the ways we approach the study of religion and problematize the very study of "Asian Religions" and "World Religions" in general. This course seeks to foster effective skills and to promote critical and independent inquiry into the ways the sacred has been and continues to be made, and how the vicissitudes of life are made meaningful in Asia.

L/R 002. (JWST122) Religions of the West. (C) History & Tradition Sector. All classes. Reed.

This course surveys some of the core beliefs and practices within Judaism, Christianity, and Islam. To do so, we will focus on history and memory, exploring how key figures and formative events from the past have been made present, from generation to generation, through scripture, ritual, liturgy, and remembrance. Special attention will be given to points of interaction between Jews, Christians, and Muslims, as well as to the impact of their intertwined histories on the formation and development of Western cultures. Fulfills History & Tradition Sector.

003. (CLST242, COML242) Religion and Literature. (C) Arts & Letters Sector. All Classes. Matter.

A consideration of how great works of literature from different cultural traditions have reclaimed and reinterpreted compelling religious themes. The focus this semester will be on themes of creation, especially the creation of human beings, from ancient myths of different cultures to modern science fiction. This course fulfills the General Requirement in Sector 3, Arts and Letters.

L/R 004. (ANCH102, ARTH121) Art and Religion. (C) Muravchick.

What is religious art and what makes art religious? This course will survey a wide variety of artistic expressions from a number of religious traditions which draw on spiritual themes, are inspired by religious experiences or texts, and which serve an important role in religious practice and belief. Some of the themes which this course will explore are: visualization and action within the cosmos, passion and religious ecstasy, the material culture of personal devotion, icons and iconoclasm, depictions of the miraculous, and the relationship between word and image. Objects and images from Christianity,

Islam, Judaism, and Buddhism and will be explored along with examples from other traditions.

005. (FOLK029, GSWS109) Women and Religion. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Garipova.

This course looks at the contrast between the model of the virtuous woman, and the instructive power of the uncontrollable woman, from 1800 to present in Hinduism, Christianity, and Islam. Drawing examples from a variety of historical contexts and traditions, this course will touch on issues of religious empowerment, piety, leadership, and theoretical questions involving gender, spirituality, the body and the intersection of class status and religious performance.

007. (AFRC001, HIST007) Introduction to Africana Studies. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

The aim of this course is to provide an interdisciplinary examination of the complex array of African American and other African Diaspora social practices and experiences. This class will focus on both classic texts and modern works that provide an introduction to the dynamics of African American and African Diaspora thought and practice. Topics include: What is Afro-American Studies?; The History Before 1492; Creating the African Diaspora After 1500; The Challenge of Freedom; Race, Gender and Class in the 20th Century; From Black Studies to Africana Studies: The Future of Afro-American Studies.

SM 010. Religion in Public Life. (C) Staff.

This seminar is an introduction to several aspects of the hotly debated relation between religion and public life in America. In the first half of the course we will study two books by law professors, one Jewish and the other Christian. Their debate will introduce us to the legal and historical background, and to the continuing challenges of church-state separation in America. The second half of the course will examine the claim that we now live in a "new religious America," one in which the increasing presence of Hindus, Buddhists and Muslims has created a new pluralism and a new set of challenges. We will then consider the argument of one historian that diversity and difference have characterized religious groups in America since at least the 19th century, and that this has resulted in a number of paradoxical social situations. Finally, we will close with a brief look at the claim that there

exists in America a "civil religion," one that unites all citizens despite their other religious differences.

SM 012. Introduction to Religion. (C) Matter.

This course is an introduction to the study of religion as an academic discipline. We will consider issues such as the role of religion in human societies, how religion addresses perennial questions of life and death, and how religious traditions change, evolve, and influence one another.

Although this is NOT a primarily an introduction to different religious traditions in sense of a "world religions" survey course, students will become acquainted with major teachings of several faith traditions. Our focus, though, will be the big questions: Does religion do more good than harm or is it the other way around? Has the modern emergence of a more secular worldview been an improvement or a diminishment? Can we know or experience who or what "ultimaterality" is, or is "it" really beyond us? How can we explain the relationship religion, peace, and violence? Is suffering and meaninglessness so pervasive that no traditional concept of a loving and powerful God can be affirmed credibly? What kinds of provocative and perhaps enduring answers have people given to these questions in the past? Has something changed as we've moved from ancient to modern times in terms of our own worldviews, so that the the ways people used to think about God must be radically revised if not abandoned entirely?

or are there ways for modern women and men to become or remain religious without ceasing to be modern? The goals of this freshman seminar include: 1. an enhanced working knowledge of some significant elements of religion, especially symbol, doctrine, experience, and systems of cosmic, social and order, as they are manifested in several religious traditions. 2. an enhanced capacity to make critical comparisons among religious traditions across time. 3. a greater capacity to analyze and reflect on the meaning of religious beliefs and practices. 4. a greater capacity to read and critically interpret religious and scholarly texts. 5. development of your written and verbal communication skills.

014. (ANCH046, NELC046) Myths and Religions of the Ancient World. (B) History & Tradition Sector. All classes. Frame.

This course will survey the religions of the ancient Middle East, situating each in its historical and socio-cultural context and focussing on the key issues of concern to

humanity: creation, birth, the place of humans in the order of the universe, death and destruction. The course will cover not only the better known cultures from the area, such as Egypt and Mesopotamia, but also some lesser known traditions, such as those of the Hurrians, or of the ancient Mediterranean town of Ugarit. Religion will not be viewed merely as a separate, sealed-off element of the ancient societies, but rather as an element in various cultural contexts, for example the relationship between religion and magic, and the role of religion in politics will be recurring topics in the survey. Background readings for the lectures will be drawn not only from the modern scholarly literature, but also from the words of the ancients themselves in the form of their myths, rituals and liturgies.

015. (ENGL033) The Bible as Literature. (M) Hall.

Successive generations have found the Bible to be a text which requires--even demands--extensive interpretation. This course explores the Bible as literature, considering such matters as the artistic arrangement and stylistic qualities of individual episodes as well as the larger thematic patterns of both the Old and New Testaments and the Apocrypha. A good part of the course is spent looking at the place of the Bible in cultural and literary history and the influence of such biblical figures as Adam and Eve, David, and Susanna on writers of poetry, drama, and fiction in the English and American literary traditions.

057. Study Abroad.

SM 103. Approaches to the Study of Mysticism. (C) Staff.

Introduction to "mysticism" as a subject of academic investigation and to selected representations in various religious traditions. Special attention to problems of definition and historical context.

105. (CIMS105) Religion and Film. (C) Staff.

Introduction to different ways in which religion is represented in film. Emphasis upon religious themes, but some attention to cinematic devices and strategies. Although most films studied will deal with only one of the major historical religious traditions (Hinduism, Buddhism, Judaism, Christianity and Islam), the selection will always include at least two of those traditions.

106. Modern Religious Thought. (C) Staff.

Evil and its justifications, theodicy, are a dominant and recurring problem formodern religious thought. We will examine various explanations for the nature and origin of evil in the writings of Leibniz, Kant, Nietzsche, Arendt, and Camus along with other philosophers and religious thinkers both ancient and modern. Through close readings of primary sources and secondary materials we will trace this problem of evil from its ancient formulations to its modern instantiations. The question, "whence evil?" becomes most pertinent in an era when many ills are surmountable through education and technological improvements yet ills persist and the greatest volumes of people in human history have been slain in mass-killings.

114. (NELC166, NELC468) The Religion of Ancient Egypt. (M) Silverman/Wegner.

Weekly lectures (some of which will be illustrated) and a field trip to the University Museum's Egyptian Section. The multifaceted approach to the subject matter covers such topics as funerary literature and religion, cults, magic religious art and architecture, and the religion of daily life.

115. (COML053, MUSC053) Art and Archaeology in Greek and Roman Religion. (M) Muller.

Survey of the pagan religion of Greece and Rome in which the major expressions of cultic activity from Mycenaean-Minoan times (ca. 1600-1200 B.C.) until the establishment of Christianity (ca. A.D. 300) will be examined. Utilizing artifacts from the University of Pennsylvania Museum and elsewhere, the course will work with the mythological, literary and archaeological records for the cults of ancient Athens, Delphi, Olympia, Rome and other key centers. Participants will be introduced to the Museum's research and storage facilities normally not accessible to the public.

SM 116. (FOLK025, HIST025, HSOC025, STSC028) Science, Magic, and Religion, 1500 to the present. (C) History & Tradition Sector. All classes. Staff.

Throughout human history, the relationships of science and religion, as well as of science and magic, have been complex and often surprising. This course will cover topics ranging from the links between magic and science in the seventeenth century to contemporary anti-science movements.

199. Independent Study. (C)**SM 203. (COML205, JWST213, JWST213, NELC383) The Religious Other. (M) Fishman.**

Course explores attitudes toward monotheists of other faiths, and claims made about these "religious Others" in real and imagined encounters between Jews, Christians and Muslims from antiquity to the present. Strategies of "othering" will be analyzed through an exploration of claims about the Other's body, habits and beliefs, as found in works of scripture, law, theology, polemics, art, literature and reportage. Attention will be paid to myths about the other, inter-group violence, converts, cases of cross-cultural influence, notions of toleration, and perceptions of Others in contemporary life. Primary sources will be provided in English.

SM 204. The Graphic Novel and Religious Identities. (M) Arsenault.

Graphic novels and comic books express a variety of popular conceptions concerning religion and, as such, are capable of showing us where (and how) religious identities and phenomena exist in modern societies. Viewing comics as material-semiotic objects with multiple origins, audiences, and effects, this course investigates how religions, religious identity, and religious phenomena are expressed in and through the comic book. Situated at the intersection of religious studies, critical theory, media studies, and literary analysis, the course asks students to consider a number of issues and concerns, including: the appropriateness of the medium to express religious ideas, practices, texts, and histories; the different ways in which narratives of salvation and spiritual transformation are visualized; the role of alternative comix in the critique of popular religion; the use of comics as a means to proselytize, confess, memorialize, and historicize; and the cultural status of comics as material objects of religious import.

205. (ARTH226, ARTH626, CLST221, CLST621) American Folklore. (M) Staff.

American folklore encompasses an astonishing array of cultural groups and artistic forms: African-American oral poetry and Franco-American fiddle tunes, Irish-American songs and Italian-American food, Native American jokes and German-American quilts, ancient old-country recipes and the latest and most bizarre Urban Legend. In this course, we will survey some of the groups that we call "American" and some of the expressive

traditions that we call "folklore." We will discuss how these traditions originate, how they develop over time, and especially how they become part of--or remain separate from--American popular culture. Along the way, we will raise important questions about the meanings that folklore holds for "Americans," for smaller cultural groups, and for individuals.

L/R 236. (CIMS352, COML241, GRMN256, RUSS188) The Devil's Pact in Literature, Music and Film. (C) Arts & Letters Sector. All Classes. Richter.

For centuries the pact with the devil has signified humankind's desire to surpass the limits of human knowledge and power. From the reformation chap book to the rock lyrics of Randy Newman's Faust, from Marlowe and Goethe to key Hollywood films, the legend of the devil's pact continues to be useful for exploring our fascination with forbidden powers.

309. Honors Thesis Seminar. (B)

Required of honors majors who choose the research option.

SM 311. (JWST335, NELC335) Muslim, Christian, and Jewish Relations in the Middle East and North Africa. (M) Sharkey.

This class is a reading- and discussion-intensive seminar that addresses several recurring questions with regard to the Middle East and North Africa. How have Islam, Judaism, and Christianity influenced each other in these regions historically? How have Jews, Christians, and Muslims fared as religious minorities? To what extent have communal relations been characterized by harmony and cooperation, or by strife and discord, and how have these relations changed in different contexts over time? To what extent and under what circumstances have members of these communities converted, intermarried, formed business alliances, and adopted or developed similar customs? How has the emergence of the modern nation-state system affected communal relations as well as the legal or social status of religious minorities in particular countries? How important has religion been as one variable in social identity (along with sect, ethnicity, class, gender, etc.), and to what extent has religious identity figured into regional conflicts and wars? The focus of the class will be on the modern period (c. 1800-present) although we will read about some relevant trends in the early and middle Islamic periods as well. Students will also pursue individually tailored research to produce final papers.

399. Directed Reading. (C)

Students arrange with a faculty member to pursue a program of reading and writing on a suitable topic.

409. (AFRC409, ANTH409) Native American Spirituality, Health, and Contemporary Concerns. (C) Powell.

Spring 2014 Topic: "Native American Spirituality, Health, and Contemporary Concerns" will focus on traditional and contemporary conceptions of Health in four Native American communities-- Lakota or Sioux, Navajo or Dine, Cherokee, and Ojibwe or Anishinaabe. The methodology will be interdisciplinary, drawing upon writings from the fields of health care, anthropology, literature, history, film studies, and religious studies. Students will learn about the the complex interrelationships between traditional knowledge systems' and modern, western conceptions of "medicine." Some examples of this include the Lakota Ghost Dance, Navajo sand paintings, Cherokee protocols regarding sacred knowledge, and Anishinaabe herbal medicine. The readings will include anthropological studies of these forms of "medicine," a history of Indian Health Services, first hand accounts of a female Navajo doctor trained in western medicine who then returned home to practice on the Navajo reservation, studies of historical trauma resulting from the massacre of Lakota at Wounded Knee, and contemporary studies of health care on Indian reservations. Students will be evaluated on the basis of in-class presentations and two research papers.

The class will also participate in an ongoing project to develop a Cultural Sensitivities workshop that is being implemented at the Indian Health Care clinic at the Cass Lake Hospital on the Leech Lake Ojibwe reservation.

410. American Religion and the LGBTQ Experience. (C) Philip Francis.**SM 439. (AFRC405, URBS405) Religion, Social Justice & Urban Development. (B) Lamas.**

Urban development has been influenced by religious conceptions of social and economic justice. Progressive traditions within Judaism, Christianity, Islam, Buddhism, Hinduism, Jainism, Baha'i, Humanism and other religions and systems of moral thought have yielded powerful critiques of oppression and hierarchy as well as alternative economic frameworks for ownership, governance, production, labor, and community. Historical and contemporary case studies from the Americas, Europe, Africa, Asia, and the

Middle East will be considered, as we examine the ways in which religious responses to poverty, inequality, and ecological destruction have generated new forms of resistance and development.

SM 500. (GRMN554) Theories of Religion. (M) Staff.

A study of the various ways of interpreting religion as a phenomenon in human life. Analysis of the presuppositions involved in psychological, sociological, and phenomenological approaches. Authors include James, Weber, Freud, Otto, Eliade, and contemporary writers offering historical, anthropological, and philosophical perspectives.

SM 509. Teaching Religious Studies. (A) Weitzman.

Many faculty in academia, especially at a research university, think of themselves as scholars first and teachers second. The emphasis on scholarship is essential for a position at a research university, but what the culture of such institutions can obscure is the importance of teaching as part of the academic vocation. The purpose of this course is to help prepare graduate students to teach academic religious studies, not to teach them how to teach, a skill developed through experience and feedback, but to encourage students to plan in advance for their work as educators and to develop their teaching aspirations and approach in dialogue with issues and debates in Religious Studies, the Humanities and the field of Education.

SM 510. Civil Religion. (M) Butler.

In the first half of the course, we will examine the theoretical question of whether modern liberal societies need a civil religion - an idea first proposed in the late eighteenth century by writer who feared that without some unifying ideal or principle the centrifugal forces at work in modern societies would lead them to disintegrate. We will examine various authors who have defended the idea of civil religion in these terms (including J.J. Rousseau, J.G. Herder, and G.W.F. Hegel) as well as several who (implicitly or explicitly) have rejected the argument (Max Weber, Michael Oakeshott, Daniel Bell, and Niklas Luhmann). In the second half of the class, we will turn to the American context and explore the way these arguments have played themselves out from the time of the constitutional frames to today. In this part of the class, we will read and discuss excerpts from the Federalist Papers and Tocqueville's Democracy in America, selected presidential speeches, nineteenth- and

twentieth-century debates surrounding Manifest Destiny and American Exceptionalism, John Dewey/Richard Rorty's proposal for a religion of democratic "common faith," and the neoconservative case for a civil religion of "national greatness."

Along the way we will also have occasion to examine sociological treatments of civil religion by such authors as Emile Durkheim, Robert Bellah, and Seymour Martin Lipset.

SM 605. (COML662, FOLK629, NELC683) Theories of Myth. (B) Ben-Amos.

Theories of myth are the center of modern and post-modern, structural and post-structural thought. Myth has served as a vehicle and a metaphor for the formulation of a broad range of modern theories. In this course we will examine the theoretical foundations of these approaches to myth focusing on early thinkers such as Vico, and concluding with modern twentieth century scholars in several disciplines that make myth the central idea of their studies.

SM 609. (COML609, GREK609) Divination and Semiotics. (M) Struck.

This course will trace a history of signs, using Greek divination as the primary focus. We will explore ancient and contemporary sign theories and their usefulness in illuminating ancient practices of divination--or the reading of signs thought to be embedded in the world. Participants in the seminar will be expected to contribute an expertise in one (or more) of three general areas: Greek literature, Greek and Roman religions, and contemporary theory in the humanities. The course is open to graduate students without Greek as well as classicists--though please register appropriately. The particular areas we cover will to some extent be determined by the interests of the participants, but will surely include: divination by dreams, entrails, and oracles as attested by literary and (to a lesser extent) archaeological evidence; Platonic, Aristotelian, Stoic and Neoplatonic theories of signs; and contemporary semiotics as articulated mainly by Saussure, Barthes, and Eco. Ancient authors will include: Homer, Xenophon, Sophocles, Cicero, Artemidorus, and Iamblichus.

999. Independent Study. (C) See department for section numbers.

Religion in America

117. (AFRC117) African American Religion. (C) Butler.

The unique history and experiences of African Americans can be traced through religion and belief. Through the mediums of literature, politics, music, and film, students will explore the religious experience of people of the African Diaspora within the context of the complex history of race in American history. The course will cover a broad spectrum of African American religious experience including Black Nationalism, urban religions, the "black church" and African religious traditions such as Santeria and Rastafarianism. Special attention will be paid to the role of race, gender, sexuality, and popular culture in the African American religious experience.

SM 208. (ANTH282, CIMS282, ENGL282) Native American Religion and Literature. (M) Powell.

This course will examine films by and about Native Americans. From the very beginnings of film history, Native Americans have been a centrally important subject. While much of the writing about Native American films tends to focus on the perpetuation of stereotypes, this class will concentrate on four primary themes: 1) the role that film plays in helping the audience to understand the exceedingly complex place of indigenous people in "American" identity (with "American" signifying, in this instance, a hemispheric sense of identity); 2) the myriad of ways that indigenous people have been involved in the history of film as extras, actors, directors, producers; 3) how representations changed when Native Americans took control of production; 4) the ways in which films by and about Native Americans have helped to heal the historical trauma resulting from the "Indian Wars" that have gone on for 500+ years on the North American continent.

211. (AFST292) African Religion in America. (M) Staff.

This survey course focuses on African Religious culture in Nigeria and in the African Diaspora. Students will be introduced to the ritual and philosophical foundations of Yoruba religion and culture. This course emphasizes the incorporative nature and heterogeneity of problematize essentialisms and stereotypes about these religious systems by paying close attention to the ethnographic details, historical contexts, philosophical underpinnings, and political developments of each religion in their region. Traditions we will be

exploring are: Ifa Divination in Nigeria and Benin; Santeria and Regla de Ocha in Cuba and the United States; Vodoun in Haiti; Shango in Trinidad; Candomble and Umbanda in Brazil; and the American Yoruba Movement in the United States. Course readings will provide a theoretical and informative basis for dealing with the concepts of syncretism, creolization, and ethnicity.

SM 310. (AFRC308) American Jesus. (M) Anthea Butler.

Images and beliefs about Jesus have always been a compelling part of American life. This course seeks to examine the social, political, religious and artistic ways that Jesus has been appropriated and used in American life, making him a unique figure for exploring American religious life. Special attention will be given to how Jesus is used to shape social and political concerns, including race, gender, sexuality, and culture.

SM 400. The Religious Right in America. (A) Butler.

From the Scopes Monkey Trial to Sarah Palin, conservative religion figures and groups have attempted to define and shape government and public policy in the United States. This course will look at the impact of conservative religion in American Politics and the ideas, personalities, and policy it has shaped. Special attention will focus on the 2008 and 2012 Election cycles, the use of media in the Religious Right, political personalities, and grassroots organizing integral to the Religious Right and its impact on American politics.

SM 412. (AFRC412) African American Spiritual Autobiography. (M) Staff.

This seminar will engage works of autobiography in the African American tradition with particular attention to the spiritual and religious contexts of the authors. We will discuss recurring themes, scriptural motifs, and religious and social tensions expressed in the works. Gender, political ideology, social activism, and religious identification will also be explored.

SM 517. (AFRC518, FOLK517) Topics in American Religion. (M) Butler.

From Marvin Gaye, to Tammy Faye Baker, to Sarah Palin and James Baldwin, Pentecostalism has influenced many, including politicians, preachers, writers, and the media. One of the fastest growing religious movements in the world, Pentecostalism continues to have a profound effect on the religious landscape. Pentecostalism's unique blend of

charismatic worship, religious practices, and flamboyant, media-savvy leadership, has drawn millions into this understudies and often controversial religious movement. This course will chronicle the inception and growth of Pentecostalism in the United States, giving particular attention to beliefs, practices, gender, ethnicity, and Global Pentecostalism.

519. (RELS119, SAST009, SAST529) An Introduction to Religion in South Asia. (C) Sevea.

This undergraduate-level course introduces students to the multi-religious complexion of South Asia as a region, with a particular focus upon key religious traditions and the resemblances and interactions between them. This course is divided into two parts. In the first part of this course, students are introduced to key religious traditions of South Asia, Hinduism, Buddhism, Jainism, Islam and Sikhism. Students will be encouraged to survey academic works pertaining to, on the one hand, the literature, doctrines, cosmologies, rituals and histories of, and prominent places of worship in, the Hindu, Buddhist, Jain, Muslim and Sikh religious traditions. On the other hand, the development of South Asia into a distinctive space and spiritual 'homeland' for multi-religious communities. Whilst the first part of the course focuses upon religious traditions autonomously, the subsequent section of the course is thematic and encourages students to make comparisons, and discover sophisticated relationships and dynamic interactions between religious traditions in South Asia. Students are introduced to scholarly writings that are revelatory of the materiality of religious traditions in pre-modern and modern South Asia; everyday forms of piety in South Asia; gender positions in religious traditions; encounters of religious traditions with European colonialism; and, perceptions of the 'other' in pre-modern religious traditions. Herein, students will find multiple sites of resemblances or differences, and cultural negotiations, engagements and contests, within religious traditions in South Asia.

SM 610. Religion in Public Life. (M) Staff.

This seminar is an introduction to six of the most debated areas involving religion in public life: diversity in American religions; church-state relations and the Constitution; issues in specific eastern and western religions; religious dimensions of contemporary ethical and social debates (abortion, euthanasia, minority and gender roles); religious symbolism in the public sphere; and the prevailing understandings

of religion in the media and modern society. Teachers, school administrators, journalists, public policy specialists, social workers, lawyers, and health care professionals all encounter situations in which the religious sensitivities of "clients" (students, parents, readers, etc.) affect the ways in which they discharge their duties. This seminar serves as an introduction to the Religion in Public Life concentration within the Master of Liberal Arts Program, which is designed to provide professionals with an understanding of the many historical, social and legal issues that complicate discussions of religion in public situations.

Jewish Studies

024. (ANTH124, JWST124, NELC155) Archaeology and the Bible. (M) Zettler.

The Hebrew Bible (Tanak) and archaeological research provide distinct, and at times conflicting, accounts of the origins and development of ancient Israel and its neighbors. Religion, culture and politics ensures that such accounts of the past have significant implications for the world we live in today. In this course we will discuss the latest archaeological research from Israel, the Palestinian Territories and Jordan as it relates to the Bible, moving from Creation to the Babylonian Exile. Students will critically engage the best of both biblical and archaeological scholarship. Open discussions of the religious, social and political implications of the material covered will be an important aspect of the course.

SM 027. (COML057, JWST151, NELC156) Great Books of Judaism. (A) Arts & Letters Sector. All Classes. Carasik.

The Babylonian Talmud (Bavli), a product reflecting the collaborative effort of generations of sages, is the foundational legal and ethical document of rabbinic Judaism. Both the methods of interpreting this text --and their theoretical frameworks have varied dramatically, evolving creatively throughout the generations. In the past century, theories of how to read the Talmud and hypotheses about its formation and redaction have opened up new avenues for understanding what the text says and, more importantly, how it works. Through in-depth examination of demonstrative legal passages, this course will contrast the insights generated by the major critical schools of the past century and with the interpretations of selected medieval scholars, the Rishonim. English

translations will be provided alongside the original texts. Previous study of the Talmud is helpful.

120. (HIST139, JWST156, NELC051, NELC451) Jews and Judaism in Antiquity. (B) History & Tradition Sector. All classes. Staff.

The course is an overview of Jewish history, culture, and society from its biblical settings through the Hellenistic-Roman, and rabbinic periods. We will trace the political, social, and intellectual-religious, and literary development of Judaism from its beginnings through the Second Temple period to the formation and evolution of Rabbinic Judaism. Topics to be covered include: the evolution of biblical thought and religious practice over time; Jewish writing and literary genres; varieties of Judaism; Judaism and Imperialism; the emergence of the rabbinic class and institutions.

121. (HIST140, JWST157, NELC052, NELC452) Med and Early Mod Jewry. (A) History & Tradition Sector. All classes. Ruderman.

Exploration of intellectual, social, and cultural developments in Jewish civilization from the rise of Islam in the seventh century to the assault on established conceptions of faith and religious authority in 17th century Europe that is, from the age of Mohammed to that of Spinoza. Particular attention will be paid to the interaction of Jewish culture with those of Christianity and Islam.

L/R 122. (HIST141, JWST158, NELC053) History of Jewish Civilization: 17th Century to the Present. (B) History & Tradition Sector. All classes. Wenger.

This course offers an intensive survey of the major currents in Jewish culture and society from the late middle ages to the present. Focusing upon the different societies in which Jews have lived, the course explores Jewish responses to the political, socio-economic, and cultural challenges of modernity. Topics to be covered include the political emancipation of Jews, the creation of new religious movements within Judaism, Jewish socialism, Zionism, the Holocaust, and the emergence of new Jewish communities in Israel and the United States. No prior background in Jewish history is expected.

123. (JWST123, NELC283) Introduction to Judaism. (M) Dohrmann.

Introduction to Judaism is a broad introduction to Judaism-touching on key

religious themes, ideas, and practices as they develop throughout Judaism's long history. Our major emphasis will be to see the religion as an evolving dialogue that happens across and within its diverse corpus of sacred and central texts from the Bible and Talmuds, through Medieval Kabbalah and Medieval Philosophy, and into Modern Jewish Literatures.

124. (HIST150, JWST130) American Jewish Experience. (C) Wenger.

This course offers a comprehensive survey of American Jewish history from the colonial period to the present. It will cover the different waves of Jewish immigration to the United States and examine the construction of Jewish political, cultural, and religious life in America. Topics will include: American Judaism, the Jewish labor movement, Jewish politics and popular culture, and the responses of American Jews to the Holocaust and the State of Israel.

SM 125. (JWST150, NELC150) Introduction to the Bible (Old Testament). (A) Humanities & Social Science Sector. Class of 2010 & beyond. Tigay.

An introduction to the major themes and ideas of the Hebrew Bible (the Old Testament), with attention to the contributions of archaeology and modern Biblical scholarship, including Biblical criticism and the response to it in Judaism and Christianity. All readings are in English.

126. (JWST102, JWST126, NELC186) Jewish Mysticism. (M) Arts & Letters Sector. All Classes. Fishman.

Survey of expressions of Jewish mysticism from Hebrew Scripture through the 21st century. Topics include rabbinic concerns about mystical speculation, the ascent through the celestial chambers -heikhalot-, the Book of Creation, the relationship of Jewish philosophy and mysticism, techniques of letter permutation, schematization of the Divine Body, the prominence of gender and sexuality in kabbalistic thought, the relationship of kabbalah to the practice of the commandments, Zohar, Lurianic kabbalah, Hasidism, New-Age Jewish spirituality and the resurgence of Jewish mysticism in the 20th century. All readings will be in English translation.

SM 127. (JWST152, NELC152) Jewish Law and Ethics. (A) Staff.

An introduction to the literary and legal sources of Jewish law within an historical framework. Emphasis will be placed upon

the development and dynamics of Jewish jurisprudence, and the relationship between Jewish law and social ethics.

SM 129. (ANTH129, JWST100, NELC252, NELC552) Themes in the Jewish Tradition. (C) History & Tradition Sector. All classes. Ben-Amos/Stern/Dohrmann/Fishman.

Course topics will vary; have included The Binding of Isaac, Responses to Catastrophes in Jewish History, Holy Men & Women (Ben-Amos); Rewriting the Bible (Dohrmann); Performing Judaism (Fishman); Jewish Political Thought (Fishman); Jewish Esotericism (Lorberbaum). Democratic culture assumes the democracy of knowledge- the accessibility of knowledge and its transparency. Should this always be the case? What of harmful knowledge? When are secrets necessary? In traditional Jewish thought, approaching the divine has often assumed an aura of danger. Theological knowledge was thought of as restricted. This seminar will explore the "open" and "closed" in theological knowledge, as presented in central texts of the rabbinic tradition: the Mishnah, Maimonides and the Kabbalah. Primary sources will be available in both Hebrew and English.

220. (COML228, HEBR250, JWST256) Studies in the Hebrew Bible. (B) Staff. Prerequisite(s): Knowledge of biblical Hebrew and prior experience studying the Hebrew text of the Bible. Knowledge of Greek is not required. Language of instruction is English.

The aim of this course is to introduce students to the critical methods and reference works used in the modern study of the Bible. To the extent possible, these methods will be illustrated as they apply to a single book of the Hebrew Bible that will serve as the main focus of the course.

SM 222. (JWST222) Topics in Medieval Jewish Cultures. (M) Mesler.

Spring 2013 Topic: Magic and Sorcery in Medieval Jewish and Christian Cultures
Magical beliefs, practices, and texts were widespread in Europe during the Middle Ages, forming an important, but often overlooked, aspect of contemporary Jewish and Christian cultures. In this seminar, we will explore the historical evidence for Christian and Jewish magical traditions, including their sources and development, the integration of magic into diverse aspects of medieval culture, and the condemnation and persecution of those accused of sorcery. In exploring these traditions, we will pay special attention to the points of intersection between Christian

and Jewish magic, which will help us understand different forms of interactions and relations between medieval Christians and Jews. Students in this seminar will learn to read medieval treatises of magic as products of a particular time and place, to recognize the particular rationality underlying magical beliefs, and to assess the relationship between magic, science, and religion in medieval thought. No prior background is necessary, and all readings will be in English.

Katelyn Mesler (Ph.D. in Religious Studies, Northwestern University) is a historian of medieval Europe, with particular interests in Jewish-Christian relations, the history of science and medicine, magical beliefs and practices, apocalyptic thought, mysticism, heretical movements, and angelology. Her research has taken her to manuscript collections throughout the U.S., Italy, France, England, and Israel, where she has investigated unpublished texts and discovered long-lost sources. This year, Katelyn is a fellow at the Katz Center for Advanced Judaic Studies; afterwards, she will begin a research fellowship at the Hebrew University of Jerusalem.

SM 223. (COML257, JWST153, NELC158, NELC458) Jewish Literature in the Middle Ages. (C) Fishman/Stern.

This course is devoted to introducing and exploring the different genres and types of Jewish literature in the Middle Ages, including poetry, narrative, interpretation of the Bible, liturgy, historiography, philosophy, sermon, mystical and pietistic writings. Specific topics will vary from semester to semester. Attention will be paid to the varieties of Jewish experience that these writings touch upon. All readings in translation.

SM 224. (COML380, JWST255, NELC250, NELC550) Bible in Translation. (C) Staff.

Spring 2015: The Book of Isaiah spans over two centuries and documents one of the most turbulent periods in the histories of Judah and Israel. In this course, we read Isaiah's prophecies in the context of their historical settings and in consideration of their theological implications. We will align the biblical texts to ancient artifacts and inscriptions that were created during the time of the prophet. A close reading of the text will allow us to appreciate Isaiah's message of peace and salvation. We can then ask: how is Isaiah's message relevant for us today?

SM 225. (JWST225, NELC251, NELC651) Introduction to the Dead Sea Scrolls. (M) Reed.

Exploration of the issues relating to the identification and history of the people who produced and used these materials as well as the claims made about the inhabitants of the Qumran site near the caves in which the scrolls were discovered, with a focus on what can be known about the community depicted by some of the scrolls, its institutions and religious life, in relation to the known Jewish groups at that time (the beginning of the Common Era). This will involve detailed description and analysis of the writings found in the caves -- sectarian writings, "apocrypha" and "pseudepigrapha," biblical texts and interpretations.

SM 226. (HEBR257, JWST257) Studies in Rabbinic Literature. (D) Stern/Fishman. Prerequisite(s): Students must be able to read an unpointed Hebrew text.

THE AKEIDAH IN MIDRASH AND IN MEDIEVAL JEWISH BIBLICAL COMMENTARIES The story of the Akeidah (Gen. 22) is one of the most significant and problematic texts in traditional Jewish literature. In this course, we will trace the history of the interpretation of this text in classical Jewish literature, from early post-Biblical interpretations found among the Dead Sea Scrolls, through Rabbinic midrash, and into the various medieval commentators--Rashi, Rashbam, Ibn Ezra, Radak, Ramban, and still others. While the focus of the course will be on the Akeidah, we will also use this text as a test-case to study the history of how Jews read, and why the interpretations of this story differ so radically. Attention will also be paid to contemporary Christian and Islamic interpretations. All texts will be read in the original Hebrew, and students should be able to read unpointed Hebrew texts, but no other previous experience in reading these texts is necessary.

SM 227. (JWST227) Modern Jewish Thought. (C) Staff.

Through a reading of such thinkers as Martin Buber, Gershom Scholem and Franz Rosenzweig, the course will address some of the fundamental issues in modern Jewish thought and experience.

320. (HIST380, JWST380) Modern Jewish Intellectual and Cultural History. (C) Ruderman.

An overview of Jewish intellectual and cultural history from the late 18th century until the present. The course considers the

Jewish enlightenment Reform, Conservative and Neo-Orthodox Judaism, Zionist and Jewish Socialist thought, and Jewish thought in the 20th century, particularly in the context of the Holocaust. Readings of primary sources including Mendelsohn, Geiger, Hirsch, Herzl, Achad-ha-Am, Baeck, Buber, Kaplan, and others. No previous background is required.

SM 422. (HIST449, JWST449) Jewish Intellectual and Cultural History in the Early Modern Era: From the Spanish Expulsion to Spinoza. (C) Ruderman.

God and Nature examines the place of the natural world, medicine, and science in Jewish thought from antiquity to the modern era. It looks especially at a body of primary sources in Hebrew written during the age of the so-called "scientific revolution" and during its aftermath. The course is a seminar open to undergraduate and graduate students with a reading knowledge of classical Hebrew. Students without Hebrew with special interest in the subject might enroll with special permission from the instructor.

SM 426. (HEBR486, JWST426) Rabbinic Writers on Rabbinic Culture. (M) Fishman. Prerequisite(s): Reading knowledge of Hebrew.

The course traces reflections on rabbinic culture produced within Jewish legal literature of the classic rabbinic period - Midrash, Mishna and Talmud - and in later juridical genres - talmudic commentary, codes and responsa. Attention will be paid to the mechanics of different genres, the role played by the underlying proof-text, the inclusion or exclusion of variant opinions, the presence of non-legal information, the balance between precedent and innovation. Reading knowledge of Hebrew is required.

SM 429. (GRMN581, HIST490, JWST490) Topics In Jewish History. (M) Staff.

Reading and discussion course on selected topics in Jewish history. The instructors are visiting scholars at the Center for Advanced Judaic Studies

SM 520. (JWST320, JWST520, NELC454, RELS321) Spirit and Law. (M) Fishman.

While accepting "the yoke of the commandments", Jewish thinkers from antiquity onward have perennially sought to make the teachings of revelation more meaningful in their own lives. Additional impetus for this quest has come from overtly polemical challenges to the law, such as those leveled by Paul, medieval

Aristotelians, Spinoza and Kant. This course explores both the critiques of Jewish Law, and Jewish reflections on the Law's meaning and purpose, by examining a range of primary sources within their intellectual and historical contexts. Texts (in English translation) include selections from Midrash, Talmud, medieval Jewish philosophy and biblical exegesis, kabbalah, Hasidic homilies, Jewish responses to the Enlightenment, and contemporary attempts to re-value and invent Jewish rituals.

SM 523. (COML527, HEBR583, HIST523, JWST523) Studies in Medieval Jewish Culture. (C) Fishman. Prerequisite(s): Reading knowledge of Hebrew.

Topic for Fall 2012: Medieval Sepharad. Through close reading of Hebrew primary sources, students will explore developments in Sephardi culture from the 11th through the 16th centuries. Topics to be examined include Sephardi preoccupation with the biblical text; medieval Sephardic belle lettres, scriptural exegesis and historiographic writings; Karaite-Rabbanite interactions; Jewish-Islamic interactions, and the nexus of philosophy and kabbalah. Students must be able to read unpointed Hebrew texts. Undergraduates require instructor's permission.

Primary sources include readings from ancient, medieval and early modern Jewish texts. Students must be able to read unvocalized Hebrew. Open to undergraduates only with the instructor's permission.

SM 557. (JWST553, NELC557) Seminar in Rabbinic Judaism. (M) Stern, Reed. Prerequisite(s): Proficiency in Hebrew and/or Greek recommended. Undergraduates need permission to enroll. May be repeated for credit.

This seminar will investigate biblical and other precedents for the idea of the messiah and the messianic age, and their interpretation and extension into both ancient Judaism and ancient Christianity. To what degree are Second Temple Jewish and early Christian ideas about the messiah an extension of ancient Israelite concepts? To what degree might they reflect a response or reaction to Hellenistic and Roman imperial ideologies? How (and when) did beliefs surrounding Jesus depart meaningfully from Jewish ideas about the messiah? How do Rabbinic Jewish traditions about the messiah and messianic age differ from their Christian counterparts, and is there evidence of any "influence"? These questions will be explored with a focus on primary source readings.

Christianity

SM 133. An Introduction to Christianity. (C) Matter.

A survey of the classical Christian Traditions (Orthodoxy, Roman Catholicism, Protestant groups). The basic perspective is phenomenological, but historical and folkloric considerations are also raised. Topics include the symbols of Christian faiths, perspectives on human nature, and views of evil.

135. Introduction to the New Testament. (C) History & Tradition Sector. All classes. Reed.

What can be known - from historical perspectives - about the life and teachings of Jesus and his earliest followers? Did Jesus see himself as a teacher and/or a revolutionary and/or the messiah? If Jesus and the apostles were all Jews, how did Christianity emerge as a distinct "religion"? distinct from Judaism? And how is that this small Galilean and Judean movement came to shape world history and Western culture even to this day? This course explores these questions through a focus on the formation of the New Testament - from the letters of Paul in the early first century CE, to the collection and closure of the canon of Christian Scriptures in the fourth century CE. In the process, we will explore the lived worlds of the first followers of Jesus through readings of texts within and outside the New Testament but also through art, artifacts, and manuscripts at Penn and in Philadelphia.

136. (JWST136) Death and the Afterlife in Ancient Judaism and Christianity. (C) Reed.

This course surveys the development of concepts about death and the afterlife in Judaism and Christianity, exploring the cultural and socio-historical contexts of the formation of beliefs about heaven and hell, the end of the world, martyrdom, immortality, resurrection, and the problem of evil. Readings cover a broad range of ancient sources, including selections from the Hebrew Bible and New Testament, as well as other Jewish and Christian writings (e.g., "apocrypha," "pseudepigrapha," Dead Sea Scrolls, classical rabbinic literature, Church Fathers, "gnostic" and "magical" materials). In the process, this course introduces students to formative eras and ideas in the history of Judaism, Christianity, and Western culture

SM 433. Christian Thought From 200-1000. (M) Matter. Prerequisite(s): None--some background in European history helpful.

This course introduces students to the major intellectual issues of Christianity from the period of the formulation of orthodox theology (the third to the fifth centuries), through the early medieval era, to the dawn of scholastic theology around the year 1000. Although the emphasis is on the evolution of Christian thought, several aspects of social and political history will also be considered, for example, the growth of ascetic movements and the monastic ideal, relationship between Christianity and the Roman Empire, and the role of women in Christian history. Readings will be largely from primary sources, with several secondary authors (especially Peter Brown) serving as foils to interpretation. Students will be expected to do independent research in the library and on line, beyond the assigned readings of the course.

SM 434. Christian Thought From 1000-1800. (M) Matter. Prerequisite(s): None--some background in European history helpful.

This course will trace the development of Christian thought (including philosophy, theology, spirituality and mysticism) from the early Scholastic period to early Methodism. Readings will be from both primary and secondary sources. A research paper will be required of each student.

Spring 2014: This course will give an overview of the main currents of Western Christian thought from the first age of reform (that is, the Central Middle Ages) through the Reformations of the sixteenth century, to the eve of the Enlightenment. In these centuries, "Christendom" underwent an almost constant process of internal and external self-definition. The most striking results of this process were the definitive separation of eastern and western Christianity and the division of the western church into what became known as Protestant and Catholic Christianity. Our focus will be on the changing definitions of Christian culture, including theological formulations (definitions of orthodoxy and heterodoxy), trends of spirituality and mysticism, forms of worship, and gender roles and definitions. Attention will also be given to institutional questions such as ecclesiastical hierarchy, monasticism, scholasticism and the rise of universities, and the changing relationship between the secular and religious worlds. Readings will be from both original and secondary sources. Additional primary sources will be available online, attached to the course

Blackboard page. I will supply copies of other readings.

Students will write two papers. The first (due Feb. 8) is a 5-7 pp. analysis of a primary source from the class, for which another text may be substituted by permission of the instructor. The second paper, due at the end of the course, should be a more ambitious research paper (at least 10 pp. for undergraduates, longer for graduate students) that includes some aspect of this history we did not directly study in class.

SM 438. (JWST410) Topics in Medieval History. (C) Treat.

This seminar introduces students to the development of Jewish and Christian biblical interpretation by focusing on ancient, medieval, and modern interpretations of the Song of Songs. Students will encounter a variety of important Jewish and Christian interpreters in English translation, guided by appropriate secondary materials. The Song of Songs is part of Jewish Scripture. It appears to be a collection of poetry on the theme of human love. Studying the developing interpretations of the Song of Songs gives one an unusual opportunity to examine the history of significant ideas in Western culture. The course will touch on issues of gender and religious language, on allegory and interpretation, on mystical and feminist readings of scripture, and on the interplay of the ascetic and the erotic in religion.

This course has no prerequisites. The readings will be made available in English. The class will utilize a combination of lecture, discussion, student presentations, reports, close reading, and a research paper.

SM 533. (HIST533, JWST533) Ancient and Medieval Church History. (C) Matter.

Many historians have argued that the most successful type of religious life in the Christian tradition is that founded by Saint Benedict of Nursia in early medieval Italy. The vision of a devout life in community dominated the medieval Christian landscape, and inspired some of the greatest classics of western Christian spirituality. This course will trace the Benedictine ideal from its roots in the Desert Fathers of the early Church, through Benedict's life and the formation of his Rule, to the role played by Benedictines in the development of medieval secular learning, theology, music, and spirituality. We will end by reading some contemporary works on the Benedictine ideal in the modern world.

SM 535. (COML535) Varieties of Christian Thought before Irenaeus. (K) Reed.

A survey of the known groups and perspectives that emerged in the first 150 years or so of the development of "Christianity" from its roots in Judaism and the Hellenistic world(s), with special attention to the primary sources (especially literary) and to modern attempts at historical synthesis.

SM 537. (GRMN510, ITAL530) Medieval Christian Mysticism. (C) Matter.

Selected topics in Christian mystical writings. Authors will be read in English translation. Knowledge of medieval languages is helpful, but not required.

SM 538. Modern Christian Thinkers. (C) Matter.

Close study of selected texts dealing with the relation between Christian ideas and modern thought.

SM 735. (CLST735, JWST735) Seminar in Judaism and/or Christianity in the Hellenistic Era. (F) Reed.

Prerequisite(s): Qualified undergraduates may enroll with permission from the instructor. Knowledge of Greek Presupposed. Student may enter either term.

Selected topics from current research interests relating to early Judaism and early Christianity. *****Fall 2013 Topic: This advanced doctoral seminar will explore the main primary sources and scholarly debates concerning contacts, conflict, and competition between Jews and Christians during the formative era of Late Antiquity. Proficiency in ancient Hebrew and/or Greek and Latin is required. Undergraduates may enroll with special permission from the instructor.

SM 736. (HIST736) Seminar in Medieval Religious Studies. (C) Matter.

Selected topics in medieval religious studies, especially biblical exegesis. Reading knowledge of medieval Latin required.

Islamic Studies

142. (ANTH142, SAST141) Islam in South Asian Culture. (M) Spooner.

Islam reached South Asia in the eighth century and Muslim rulers held sway over large parts of the Subcontinent for much of the period from the late 12th century until the colonial period. However, the majority

of the population never converted to Islam, and since independence in 1947 Islam--its interpretation, realization, and influence--has been a major factor underlying many difficult political issues. This has been true not only in the largest country, India, where Muslims form 12% (unevenly distributed) of the population, but in Bangladesh and Pakistan where non-Muslims are relatively insignificant minorities. This course explores the realities and the perceptions related to Muslim identities and the Islamic heritage in the subcontinent, and sets it in global context by comparison with other parts of the world which share various aspects of the South Asian experience. The course will conclude with an assessment of the larger significance--social, economic and political, as well as cultural--of Islam in South Asia today.

143. (NELC136, SAST139) Introduction to Islam. (C) Karjoo-Ravary.

This course is an introduction to Islam as a religion as it exists in societies of the past as well as the present. It explores the many ways in which Muslims have interpreted and put into practice the prophetic message of Muhammad through historical and social analyses of varying theological, philosophical, legal, political, mystical and literary writings, as well as through visual art and music. The aim of the course is to develop a framework for explaining the sources and symbols through which specific experiences and understandings have been signified as Islamic, both by Muslims and by other peoples with whom they have come into contact, with particular emphasis given to issues of gender, religious violence and changes in beliefs and behaviors which have special relevance for contemporary society.

145. (NELC185, SAST145) Islamic History and Culture. (M) Harris.

This course introduces students to the history of Islam as both a religion and as a civilization, from pre-Islamic Arabia to the rise of the gunpowder empires in the 16th century. The course will use key moments, texts, and figures in Islamic history to examine notions of religion, culture, and civilization as they have been understood by Muslims, in a variety of contexts, as well as the problems and politics surrounding the representation of Islamic history and Islam in the contemporary world. Some major topics to be covered include the development of Islamic institutions, the participation of Jews, Christians, and others in Islamic civilization, Arabic and Persian literature,

as well as Europeans' encounters with Islam.

SM 245. Sufism. (B) Harris.

This course is a survey of the large complex of Islamic intellectual and social perspectives subsumed under the term Sufism." Sufi philosophies, beliefs, practices, and social organizations have been a major part of the Islamic tradition in all historical periods and Sufism has also served as a primary muse behind Islamic aesthetic expression in poetry, music, and the visual arts. In this course, we will attempt to understand the nature and importance of Sufism by addressing both the world of ideas and socio-cultural practices. We will trace the development of Sufism as a form of Muslim piety linked to key notions in the Quran as well as living practices of venerating the Prophet Muhammad. We will then immerse ourselves in Sufi theoretical writings through a select list of primary sources introducing foundational Sufi concepts concerning the annihilation of oneself in God, and the various stages of the Sufi quest for spiritual union. From there, we will shift to a discussion of the interactions between Sufism and philosophy by looking at the writings of two of the most influential Sufi thinkers, Al-Ghazali and Ibn al-Arabi. We will also study the important role of Sufi poetry through a close reading of a selection of Rumi's works.

In our discussion of the social and political dimensions of Sufism, we will explore the relations between Sufi movements and religious and political authority, focusing on antinomianism and patronage in the Ottoman Empire, and on Sufi responses to colonial rule. The last part of the course will look at the roles of Sufis and Sufism in contemporary societies from South Asia to North America.

248. (NELC238) Introduction to Islamic Law. (A) Lowry.

This course will introduce students to classical Islamic law. Most of the readings will be taken from primary sources in translation. Areas covered will include criminal law, family law, law in the Qur'an, humanities, and other selected topics.

SM 249. (SAST249) Topics in Islamic Religion and Society. (C) Terenjit Sevea.

A course devoted to specific problems in the religion of Islam and Muslim societies. Each semester will focus on one of the following subjects: Muhammad, Women in Islam, Islamic Mysticism, or American Islam. No previous knowledge of Islam required.

SM 541. (NELC581, SAST541) Religion and the Visual Image. (M)

Elias.

This seminar explores the place of visual religious arts in Islam; we will attempt to get beyond conventional ideas regarding the impropriety of visual representation to examine how Muslims have understood and deployed visual art in a number of historical and cultural contexts. In the process, we will explore the ways in which visuality as a process renders the act of seeing into a religious experience. As such, we will also examine the role of the arts in relation to religion: how does vision affect the understanding and practice of religion, and what do visual arts tell us about religion in ways that texts of speech cannot? Simultaneously, what does the study of religion tell us about visual art that art history cannot?

542. (RELS242, SARS241, SARS541) Seeing is believing. (E) Jamal Elias.

Seeing is Believing engages in a historical, theoretical, and cross-cultural analysis of the place of visuality in religion and of religion in visual culture. We will examine images, buildings, places, objects, performances and events. The geographical, cultural and historical scope of the material is broad, including subjects from Europe, the Islamic World, non-Muslim South Asia, the US and Latin America from the medieval period until the present. Theoretical works will be read in conjunction with representative examples to invite intellectual engagement in a socially and historically grounded way. Important issues to be covered include the relationship of visual to material culture; visual theories versus theories of vision; locating religion in human sensory experience; perception at individual and collective levels; authentic, fakes and simulacra; iconoclasm and image veneration; aesthetics, use and utility; and things.

SM 545. (NELC534) Sufism. (C) Elias. Prerequisite(s): Reading knowledge of Arabic.

Selected topics, such as Sufi Texts or The Qur'an, in the study of Islamic religion.

SM 742. (NELC782, SAST763) Topics in Islam. (M) Elias. Prerequisite(s): A reading knowledge of modern Persian (Farsi/Dari/Tajik) is required.

Fall 2012 Topic: TBD

Buddhism and Hinduism

L/R 155. (PHIL050, RELS455, SAST150) Introduction to Indian Philosophy. (C) History & Tradition Sector. All classes. Staff.

This course will take the student through the major topics of Indian philosophy by first introducing the fundamental concepts and terms that are necessary for a deeper understanding of themes that pervade the philosophical literature of India -- arguments for and against the existence of God, for example, the ontological status of external objects, the means of valid knowledge, standards of proof, the discourse on the aims of life. The readings will emphasize classical Hindu, Buddhist, and Jain philosophical articulations (from 700 B.C.E to 16th century CE) but we will also supplement our study of these materials with contemporary or relatively recent philosophical writings in modern India.

162. (SAST122) Epic Traditions of India. (C) Staff.

This course examines various key aspects of the epic traditions of India. The Ramayana and the Mahabharata are two great Indian epics that have deeply influenced the Indian religious and cultural ethos. The course inspects scholarly studies regarding the multiple renditions of these epics. The students will view folk performances from various regions in India that continue to bring these epics to life. These performances form a significant part of the epic tradition as they connect the stories in the epics with material realities of the Indian religious and cultural life. The course investigates the role played by the two epics, especially the Ramayana, in the Indian political discourse in both the past and the present. Beyond India, their historical birthplace, these epics traveled to South East Asian regions such as Indonesia and Malaysia. We will also consider the ways in which the traditions in these regions are similar or dissimilar to those in India. Lastly, the students will study the role of the media such as television shows, cinema, and comic books in the manifestation of these epics in popular imagination.

163. (RELS663, SAST140) Introduction to Hinduism. (C) Vose.

From scriptures of hallowed antiquity to riveting epics to ever-popular tele-serials and internet pujas? a bewildering array of narratives, technologies, peoples and ideas have been brought together under the label of "Hinduism". While encyclopedias and guidebooks continue the futile attempts to

provide a checklist of the key features of the entity called "Hinduism", the historical reality repeatedly confounds any single definition of the term. The course will explore this diverse and heterogeneous reality by historicising the term "Hinduism". In other words, it will examine Hinduism within the diverse social, cultural and political contexts in which it has been and continues to be enmeshed. From the early Vedic era to contemporary diasporic Hindu communities, the course will provide an introduction to Hinduism as a fluid, multifaceted, heterogeneous reality that has always been shaped by its many historical contexts.

L/R 173. (EALC015, SAST142) Introduction to Buddhism. (C)
McDaniel.

This course seeks to introduce students to the diversity of doctrines held and practices performed by Buddhists in Asia. By focusing on how specific beliefs and practices are tied to particular locations and particular times, we will be able to explore in detail the religious institutions, artistic, architectural, and musical traditions, textual production and legal and doctrinal developments of Buddhism over time and within its socio-historical context. Religion is never divorced from its place and its time. Furthermore, by geographically and historically grounding the study of these religions we will be able to examine how their individual ethic, cosmological and soteriological systems effect local history, economics, politics, and material culture. We will concentrate first on the person of the Buddha, his many biographies and how he has been followed and worshipped in a variety of ways from Lhasa, Tibet to Phrae, Thailand. From there we touch on the foundational teachings of the Buddha with an eye to how they have evolved and transformed over time. Finally, we focus on the practice of Buddhist ritual, magic and ethics in monasteries and among aly communities in Asia and even in the West. This section will confront the way Buddhists have thought of issues such as "Just-War," Women's Rights and Abortion.

While no one quarter course could provide a detailed presentation of the beliefs and practices of Buddhism, my hope is that we will be able to look closely at certain aspects of these religions by focusing on how they are practiced in places like Nara, Japan or Vietnam, Laos.

L/R 184. (EALC034) What is Taoism?. (M) Goldin.

Topical study of the Taoist religion and its relations through history to philosophical Taoism, popular religion, and science.

SM 270. (EALC038) Topics in East Asian Religions. (M) Staff.

Spring 2013 Topic: Religion, State, and Society in East Asia. This course examines the relationship between religious institutions and the state in East Asia. Focusing on China and Japan, we will learn about the impact of religious ideas, practices, and organizations on social, political and economic processes and inspect the role of religion in the consolidation of individual, communal, and national identity. Adopting a comparative and transnational approach, we will examine the impact of Asian religious traditions: Confucianism, Daoism, Buddhism, and Shinto, as well as global religions such as Islam and Christianity, on the internal sociopolitical structure of the Chinese and Japanese states and their role in shaping power relations on the international level.

The class will follow a linear chronological line divided into three separate units. The first unit will cover the emergence of the dominant religious traditions and sociopolitical structures in premodern China and Japan. This unit will set the tone for our main discussion of the relationship between religion and the state in the modern and contemporary periods. The second unit begins with the impact of Christianity on the political cultures of East Asia and concludes with the fate of the empires of China and Japan in the early 20th century. The third and final unit will focus on the emergence of new religious movements in postwar Japan and the continuing discourse on state control over religion in the PRC and Taiwan.

In addition to covering material from the assigned chapters from the textbook and other secondary sources in greater depth, we will also dedicate our class sessions to close readings of primary historical sources, from imperial edicts and philosophical and religious essays to news interviews and documentary footage. No previous knowledge of Chinese or Japanese is necessary, and all readings will be available in English on the blackboard site in PDF form.

276. (EALC265) Zen Buddhism. (C) Staff.

This course examines the history, doctrines, and practices of Zen Buddhism in China, Japan and the West. Topics include the

monastic life, notable Zen masters, Zen's cultural impact, and enlightenment.

SM 356. Living Deliberately: Monks, Saints, and the Contemplative Life. (M) McDaniel.

Prerequisite(s): Students must complete an interview with instructor before acquiring a permit.

Students who are not Religious Studies Majors and are not honors students must gain permission from instructor to enroll in this course.

This is an experimental course in which students will experience monastic and ascetic ways of living. There will be no examinations, no formal papers, and very little required reading. However, each participant will need to be fully committed intellectually and participate in the monastic rules in the course involving restrictions on dress, technology, verbal communication, and food. The course subject matter is about ways in which nuns, monks, shamans, and swamis in various religious traditions (Buddhist, Muslim, Catholic, Jain, Taoist, Hindu, Animist, among others) have used poetry, meditation, mind-altering chemicals, exercise, magic, and self-torture to cope with pain and suffering, as well as struggle with spiritual, ethical, and metaphysical questions concerning the nature of the soul, the afterlife, and reality. Through monastic and spiritual practice, this course hopes to provide students with an opportunity to struggle with these questions themselves.

SM 473. (SAST373) Southeast Asian Buddhism. (M) Staff.

This course traces the history and development of Buddhist culture and religion in Southeast Asia. It is a discussion seminar course that examines the role of foundational texts like the Traibhumikatha and Mulasasana, as well as debating the role of kingship, magic, politics, economics, and art in the growth of Buddhism and Buddhist teachings in the region. It is open to undergraduates and graduates.

SM 562. Religions of Southern India. (M) Staff.

Critical examination of selected problem areas in the interpretation of religious texts, traditions, institutions, and practices in South and Southeast Asia.

SM 571. (ARTH510, EALC718) Advanced Topics in Buddhism. (M) McDaniel.

This is an advanced course for upper level undergraduates and graduate students on various issues in the study of Buddhist texts, art, and history. Each semester the

theme of the course changes. In recent years themes have included: Magic and Ritual, Art and Material Culture, Texts and Contexts, Manuscript Studies.

Fall 2013 Topic: Buddhist repertoires (idiosyncratic and personal assemblages of beliefs, reflections, wonderings, possessions, and practices) for a large part, material and sensual. Buddhists are often sustained by their collection, production, and trading of stuff amulets, images, posters, protective drawings, CDs, calendars, films, comic books, and even Buddhist-themed pillow cases, umbrellas, and coffee mugs. Aspirations are interconnected with objects. Beliefs are articulated through objects. Objects are not empty signifiers onto which meaning is placed. The followers and the objects, the collectors and their stuff, are overlooked in the study of religion, even in many studies in the growing field of material culture and religion. What is striking is that these objects of everyday religiosity are often overlooked by art historians as well. Art historians often remove (through photography or physical movement to museums or shops) images and ritual implements from their ritual context and are seen as objets d'art.

While art historians influenced by Alfred Gell, Arjun Appadurai, and Daniel Miller have brought the study of ritual objects into the forefront of art historical studies, in terms of methodologies of studying Buddhist art, art historians have generally relegated themselves to the study of either the old and valuable or the static and the curated. This course aims to 1) bring a discussion of art into the study of living Buddhism. Art historians have primarily concentrated on the study of images, stupas, manuscripts, and murals produced by the elite, and primarily made before the twentieth century; 2) study art as

it exists and operates in dynamic ritual activities and highly complex synchronic and diachronic relationships; 3) focus on the historical and material turn in the study of images, amulets, and murals in Buddhist monasteries and shrines.

Western Traditions

112. (AFRC115) Religious Ethics and Modern Society. (C) Butler.

Religious beliefs of Malcolm X and MLK formed their social action during the Civil Rights for African Americans. This seminar will explore the religious biographies of each leader, how religion shaped their public and private personas, and the transformative and transgressive role that religion played in the history of the Civil Rights movement in the United States and abroad. Students in this course will leave with a clearer understanding of religious beliefs of Christianity, The Nation of Islam, and Islam, as well as religiously based social activism. Other course emphases include the public and private roles of religion within the context of the shaping of ideas of freedom, democracy, and equality in the United States, the role of the "Black church" in depicting messages of democracy and freedom, and religious oratory as exemplified through MLK and Malcolm X.

113. (AFRC113, GSWS113, JWST113) Major Western Religious Thinkers. (C) Staff.

Introduction to the writings of one or two significant western religious thinkers, designed for those who have no background in religious thought. Possible thinkers to be studied: Augustine, Maimonides, Spinoza, Luther, Teresa of

Avila, Edwards, Mendelssohn, Kierkegaard, DuBois, Bonhoeffer, King.

SM 418. (COML556, JWST356, JWST555, NELC356) Ancient Interpretation of the Bible. (M) Stern.

The purpose of this course is two-fold: first, to study some of the more important ways in which the Bible was read and interpreted before the modern period; second, to consider the uses to which some contemporary literary theorists have put these ancient modes of interpretation as models and precursors for their own writing. The major portion of the course will be devoted to intensive readings of major ancient exegetes, Jewish and Christian, with a view to considering their exegetical approaches historically as well as from the perspective of contemporary critical and hermeneutical theory. Readings of primary sources will be accompanied by secondary readings that will be both historically oriented as well as theoretical with the latter including Hartman, Kermodé, Todorov, and Bloom.

SM 419. (JWST419, NELC489) Jewish-Christian Relations Through the Ages. (M) Fishman.

This is a Bi-directional course which explores attitudes toward, and perceptions of, the religious "Other", in different periods of history. Themes include legislation regulating interactions with the Other, polemics, popular beliefs about the Other, divergent approaches to scriptural interpretation, and cross-cultural influences, witting and unwitting.

Different semesters may focus on Late Antiquity, the Middle Ages, Early Modern period, or contemporary times. May be repeated for credit.

ROMANCE LANGUAGES (AS) {ROML}

SM 308. TOPICS IN FRENCH CULTURE. (C)

How did France go from a nation with a monarch styled the Most Christian King

SM 310. LITERARY HISTORY. (M)

Please see the French department's website for the course description.

<https://www.sas.upenn.edu/french/pc>

L/R 386. (CIMS386) PARIS IN FILM. (M)

See the Romance Languages Department's website at <http://ccat.sas.upenn.edu/roml> for a current description.

SM 537. (COML546, ENGL546, GSWS536) THE NOVEL AND MARRIAGE.

SM 560. (COML561, ENGL545) STUDIES IN THE 18TH C. (C)

Please check the French department's website for the course description.

<https://www.sas.upenn.edu/french/pc>

SM 105. SICILIAN LANGUAGE & CLTR. Prerequisite(s): There are no prerequisites for ITAL 105: Sicilian Language and Culture.

Occupied over the centuries by the Greeks, Romans, Arabs, Normans, French, and Spaniards, Sicily is a region of many histories and many traditions. Birthplace and crossroad of cultures and artistic movements, the Sicilian land has shaped the imagination of its inhabitants and has never ceased to fascinate its visitors. Its language and culture have also been exported abroad, through the many Sicilians who left the island and settled all over the world. This course is an introduction to Sicilian Language and Culture. We will study spoken Sicilian and cultural artifacts ranging from film to literature, to music and food, in order to learn to recognize and understand the unique sounds and features of "siciliano" and to converse in Sicilian with native speakers and with one another.

This course is delivered in an online format, with occasional face-to-face meetings. Class sessions are offered through a course website and include live lectures and interactive discussions. Between classes, the learning experience is extended through assignments, lectures and discussions.

SM 230. (HIST230) TOPICS IN EUROPEAN HIST. (C)

Please check the website for a current course description.
<http://www.sas.upenn.edu/italians/courses>

318. (HIST318) ITAL HIST 1789- PRESENT. (M)

SM 384. (CIMS387, COML384) HOLOST ITAL LIT & FILM. (M)

SM 583. POST-HUMAN LANDSCAPES. (M)

SM 687. PASOLINI & CALVINO. (M)

SM 201. STUDY ABROAD.

SM 523. MODERN NOVEL. (M)

SM 543. (COML544, ENGL584, ENVS543, GRMN543) ENVIRONMENTAL HUMANITIES.

FRENCH (FREN)

Basic Language Courses

SM 110. Elementary French I. (C)

French 110 is the first semester of the elementary-level sequence designed to develop functional proficiency in the four skills and gain familiarity with French and Francophone culture. The primary emphasis is on the development of the oral-aural skills, speaking and listening. Readings on topics in French culture as well as frequent writing practice are also included in the course.

As in other French courses, class will be conducted entirely in French. You will be guided through a variety of communicative activities in class which will expose you to a rich input of spoken French and lead you from structured practice to free expression. You will be given frequent opportunity to practice your newly acquired vocabulary and grammatical structures in small group and pair work which simulate real-life situations. The course will introduce you to French and Francophone culture through authentic materials including written documents, simple articles, songs, films, videos and taped conversations between native speakers. Out-of-class homework will require practice with CDs as well as regular writing practice. The course will also invite you to explore the Francophone world on the Internet.

SM 112. Accelerated Elementary French. (A)

French 112 is an intensive elementary language course covering the equivalent of French 110 and 120 in one semester. Students must have a departmental permit to register. The course is normally open only to students who have no previous knowledge of French, and who have already fulfilled the language requirement in another language.

SM 120. Elementary French II. (C)

Prerequisite(s): French 110.

French 120 is the second semester continuation of the elementary-level sequence designed to develop functional proficiency in the four skills and gain familiarity with French and Francophone culture. The primary emphasis is on the development of the oral-aural skills, speaking and listening. Readings on topics in French culture as well as frequent writing practice are also included in the course.

As in other French courses, class will be conducted entirely in French. You will be guided through a variety of communicative activities in class which will expose you to rich input of spoken French and lead you from structured practice to free expression. You will be given frequent opportunity to practice your newly acquired vocabulary and grammatical structures in small group and pair work which simulate real-life situations. The course will introduce you to French and Francophone culture through authentic materials including written documents, simple articles, songs, films, videos, and taped conversations between native speakers. Out-of-class homework will require practice with CDs as well as regular writing practice. The course will also invite you to explore the Francophone world on the Internet.

SM 121. Elementary French for "False Beginners". (A)

French 121 is an intensive one-semester language course for students who have had some French before but who can benefit from a complete review of elementary French. Students with an SATII score between 380-440 or a placement score between 18-29 should enroll in French 121. This course will provide a re-introduction of the basic structures of French with intensive work on speaking and listening designed to prepare students to take Intermediate French. Due to the nature of the course, the first half will progress rapidly with much more difficult material being presented after the midterm period.

As in other French courses, class will be conducted entirely in French. You will be guided through a variety of communicative activities in class that will expose you to a rich input of spoken French and lead you from structured practice to free expression. You will be given frequent opportunity to practice your newly acquired vocabulary and grammatical structures in small group and pair work activities which simulate real-life situations. The course will introduce you to French and Francophone culture through authentic materials including written documents, simple articles, songs, films, videos, and taped conversations between native speakers. Out-of-class homework will require frequent practice with audio and video material, and will include daily written assignments. The course will also invite you to explore the Francophone world on the Internet.

SM 130. Intermediate French I. (C)

Prerequisite(s): Completion of French 120 or 121, or placement into third-semester French.

French 130 is the first half of a two-semester intermediate sequence designed to help you attain a level of proficiency that should allow you to function comfortably in a French-speaking environment. You are expected to have already learned the most basic grammatical structures in elementary French and you will review these on your own in the course workbook. This course will build on your existing skills in French, increase your confidence and ability to read, write, speak and understand French, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material.

As in other French courses at Penn, class will be conducted entirely in French. In addition to structured oral practice, work in class will include frequent communicative activities such as role-plays, problem-solving tasks, discussions, and debates, often carried out in pairs or small groups. Through the study of authentic materials such as articles, poems, songs, films, videos, you will deepen your knowledge of the French-speaking world. Daily homework will require listening practice with audio and video material, in addition to regular written exercises in the workbook and frequent composition practice.

Students who have completed French 120, or with an SATII score of 450-540 or a placement score between 30 and 35 should enroll in this course.

SM 134. Accelerated Intermediate French. (B)

An intensive two-credit course covering the first and second semester of the intermediate year. See descriptions of French 130 and 140. Students must have a departmental permit to register. Also offered in the summer Penn-in-Tours program in France.

SM 140. Intermediate French II. (C)

Prerequisite(s): Completion of French 130 or placement into fourth-semester French.

French 140 is the second half of a two-semester intermediate sequence designed to help you attain a level of proficiency that should allow you to function comfortably in a French-speaking environment. You are expected to have already learned the most basic grammatical structures in elementary French and you will review these on your own in the course workbook. This course will build on your existing skills in French, increase your confidence and ability to read, write, speak and understand French, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material.

This course focuses on the culture of French-speaking countries beyond the borders of France. Along with your classmates, you will explore the cities of Dakar, Fort-de-France and Marrakesh, investigating the diversity of the francophone world through film, literature and music. As in other French courses at Penn, class is conducted entirely in French. In addition to structured oral practice, work in class will include frequent communicative activities such as problem-solving tasks, discussions, and debates, often carried out in pairs or small groups. Daily homework will require researching in the library and on the Internet, listening practice with video clips, in addition to regular written exercises in the workbook.

SM 180. Advanced French in

Residence. (E) Corequisite(s): Residence in Modern Language House.

Open only to residents in La Maison Francaise. Participants earn 1/2 c.u. per semester.

Undergraduate-Level Courses

SM 202. Advanced French. (C)

Prerequisite(s): Open to students who have completed the language requirement. Students who are continuing from French 134 or 140 should take French 202 before moving on to more advanced French courses.

French 202 is a one-semester third-year level French course. It is designed to prepare students for subsequent study in upper-level courses in French and francophone literature, linguistics, civilization, cinema, etc. It is required for students who have completed 140 and recommended for those with an equivalent level, wishing to continue in more advanced French courses or preparing for study abroad. Exceptions can be made with permission of the undergraduate chair.

It is also an appropriate course for those students who have time for only one more French course and wish to solidify their knowledge of the language by continuing to work on all four skills--speaking, listening, reading and writing. Students' work will be evaluated both in terms of progress in language skills and of ability to handle and engage in the content areas.

This course does not include a systematic review of French grammar (that is done in FREN 212). Nevertheless, through the diverse writing assessments (e.g., creative writing; essays), the various textual and visual references (e.g., novels; articles; films; clips), the communicative approach, the students will play an active role in their learning process and consequently will be led to consolidate and deepen their grammatical competence.

The class studies two thematic units dealing with a wide variety of magazine articles, literary texts, historical documents, movies, songs, etc. In the first dossier, students get a chance to expand their knowledge of French history, with one major focus on World War II and the German occupation of France. In the second dossier, students study contemporary France focusing on issues such as the modern family, education, pop culture. While touching upon issues of identity in France, the class engages the students into an intercultural dialogue which enables them to be more aware of the differences and similarities between the two countries.

SM 211. French for the Professions I. (C)

Prerequisite(s): Intermediate-high/advanced level of French (French 202 highly recommended). No business background necessary.

This content-based language course, taught in French, introduces economic, business and professional terminology through the study of the following topics: financial institutions (banking, stock market and insurance); business practices (business letters and resumes); trade and advertising; the internal structure and legal forms of French companies. The course also emphasizes verbal communication through three components: 1) In-class activities such as problem-solving tasks, discussions and debates. 2) The study of authentic materials such as newspapers and magazines' articles, video clips, and radio shows. 3) A series of students' presentations.

Finally, in order to use and practice the new economic and business terminology studied in this course, and to also further explore the structure, the management, and the operations of the French companies, students will work in pairs on a research project about a major French company of their choice.

One of the other goals of this course is to also prepare the students to take one of the exams offered by the Paris Chamber of Commerce and Industry: the Diplome de Francais Professionnel, Affaires, C1. This exam will be held on campus in April.

SM 212. Advanced French Grammar and Composition. (C)

Intensive review of grammar integrated into writing practice. A good knowledge of basic French grammar is a prerequisite (French 202 or equivalent is recommended). Conducted entirely in French, the course will study selected grammatical difficulties of the French verbal and nominal systems including colloquial usage. Frequent oral and written assignments with opportunity for rewrites.

Articles from French newspapers and magazines, literary excerpts, and a novel or short stories will be used as supplementary materials in order to prepare students to take content courses in French in disciplines other than French.

SM 214. Advanced French Composition and Conversation. (C)

Prerequisite(s): French 202 and/or 212 recommended.

Entitled "Contemporary French Society through its Media," this course is intended to improve speaking and writing skills by offering extensive practice in a variety of styles and forms. It will also help students

better understand contemporary French culture, thought and modes of expression. The content is organized around current events and the themes of identity and art. Activities include the study, analysis and emulation of model texts as well as discussion and debates about events and social issues as covered by the French news media (television, print, Internet sources). Students will practice oral skills in a variety of ways, including video blogs and group presentations on selected current events. Written practice will comprise reflective journals, essays and collaborative work on Web projects.

The goal of this course is to help students attain the Advanced level of proficiency in speaking and writing (by ACTFL standards). The specific language functions we will work on are narration, description, offering and soliciting advice and opinions, expressing feelings, critique and analysis, argumentation.

(Recommended for students who are planning to study abroad in France)

SM 217. French Phonetics. (C)

This course is designed to provide students with a solid foundation in French phonetics and phonology. Part of the course will be devoted to learning how to produce discourse with native-like pronunciation and intonation. The course will also focus on improving aural comprehension by examining stylistic and regional differences in spoken French.

SM 226. French History and Culture until 1789. (A)

History & Tradition Sector. All classes. Prerequisite(s): Two advanced courses taken at Penn or equivalent.

An introduction to the social, political and historical institutions of France from the earliest times until the Revolution of 1789. Required for majors in French and also of particular interest to majors in history, international relations, Wharton students, etc.

This course will be taught in French.

SM 227. French History and Culture 1789-1945. (B)

Prerequisite(s): Two advanced courses taken at Penn or equivalent.

French cultural and social history from the Revolution of 1789 to the liberation of Paris in 1944. Readings in primary and secondary sources, including political documents, literary excerpts and contemporary articles.

Required for majors, also of particular interest to majors in History, International Relations, Wharton students, etc. The course is taught in French.

SM 228. Contemporary France. (C)

This course focuses on the major cultural and political events that have transformed French society from 1945 to the first decades of the new millennium. Using a wide range of print, visual, and online media, this class allows students to examine and research contemporary France by way of the main issues, movements and debates that have marked the last decades. Among these are: France's postwar International relations; Memory and national identity; Migration, immigration and multiculturalism; Religion and/in the Republic; Civil society; Intellectual movements and cultural productions.

SM 229. (LING229) French in the World. (C)

Le Francais dans le monde/French in the World provides a survey of the sociolinguistics of the French language in the contemporary world in order to elucidate how societal changes influence the manner and the contexts in which the French language is spoken. Case studies focus on various parts of the Francophone world, including Africa, Southeast Asia, and the Americas. The course considers questions such as the following: What effect does contact with other languages have on the way French is spoken? Which variety (or varieties) of French represents "good" or standard language use? How do political forces and movements affect the evolution of French? What is the present and future role of the French language in the face of globalization? How are language attitudes similar and different among French-speaking and English-speaking regions of the world? In what ways does the language we speak and the way we speak it shape our identities? Readings and class discussions are in French.

L/R 230. (CIMS245) Masterpieces of French Cinema. (A)

This course will introduce students to key films of the French film canon, selected over a period ranging from the origins of French cinema to the present. Students will also be introduced to the key critical concepts (such as the notion of the "auteur" film genre) informing the discussion of films in France. The films will be studied in both a historical and theoretical context, related to their period styles (e.g. "le realisme poetique," "la Nouvelle Vague," etc.), their "auteurs," the nature of the French star system, the role of the other arts, as well to the critical debates they have sparked among critics and historians. Students will acquire the analytical tools in

French to discuss films as artistic and as cultural texts.

Please note: This course follows a Lecture/Recitation format. The Lecture (FREN 230-401/CINE 245-401) is taught in English. For French credit: please register for both FREN 230-401 (lecture) and FREN 230-402 (recitation); the FREN 230-402 recitation is conducted in French. For Cinema Studies credit: please register for CINE 245-401 (lecture) and CINE 245-403 (recitation); both are taught in English.

SM 231. (COLL221, COML218) Perspectives in French Literature. (A) Arts & Letters Sector. All Classes.

This basic course in literature provides an overview of French literature and acquaints students with major literary trends through the study of representative works from each period. Students are expected to take an active part in class discussion in French. French 231 has as its theme the presentation of love and passion in French literature.

This course was previously offered as French 221.

SM 290. The French Short Story. (M)

SM 301. (CIMS301, GSWS301) French Identity in the Twentieth Century. (C)

Topics vary. Please see the French Department's website for a description of the current offerings:
<https://www.sas.upenn.edu/french/pc>

SM 311. (COML309) French Thought After 1968. (C) Yue Zhuo.

SM 313. French for the Professions II. (B) Prerequisite(s): An intermediate high to advanced level of French. French for the Professions I (211) highly advisable. No business background necessary.

The course, conducted entirely in French, emphasizes verbal communication in business professional situations through three components. First, a series of student's presentations, in-class activities (using newspapers' articles, technical readings, radio shows and films), and debates on the following topics (list not exhaustive) related to France's economy and society: The role of the State in France's economy; the French fiscal system; Labor (impact of the 35-hour work week, "conges," women in the workplace, etc.); Regions of France (production); major French industries/companies/brands; France's major imports/exports; "Green business"; Business of pop culture.

Second, as effective communication is based not only on linguistic proficiency but also on cultural proficiency, cultural

differences mostly between Americans and French will be explored.

Finally, throughout the semester, students will work in groups on the creation of their own business, association, or other organization and will be invited to present their project to the class at the end of the semester. On completion of the course, students will also have the opportunity to take the Diplome de Francais Professionnel-DFP Affaires (C1) administered by the Paris Chamber of Commerce and Industry.

SM 322. France and the European Union. (B)

This course aims to provide an understanding of the European Union as a complex entity: its history, institutions, challenges and future. After reviewing the history of European integration and describing the Community's institutions, common programs and market, we will consider a wide variety of themes important to Europe: economics, business, science, education, immigration, the environment, social issues, national and European identity, a Federal Europe vs. a Europe of nations, European social/cultural models vs. American liberalism, relations between the EU and the rest of the world. Students will be responsible for pursuing substantive research on these and other topics and participating actively in debates. We will also follow and discuss current events that are pertinent to the EU in general and to France in particular.

This class will be conducted entirely in French and is designed to improve cross-cultural understanding and communicative skills in the presentational, interpretive and interpersonal modes.

SM 325. Advanced French Translation. (B) Prerequisite(s): French 212 or equivalent recommended.

This course provides an introduction to the theory and practice of translation and is designed to help foster a critical understanding of differences between French and English syntactical and lexical patterns. It will introduce students to theoretical concepts and problems of translation, with the ultimate goal being to improve their ability to communicate in more authentic-sounding French. Students will have the opportunity to practice translation individually and to work with their peers on a variety of projects (advertising, journalistic and literary texts, movie and broadcast news subtitling) and to engage in critique and discussion of others' translations. This course will help students refine their language skills and

navigate more proficiently between these cultures and language systems.

(Designed for students who already have a solid foundation in French and English grammar)

SM 330. (GSWS330) Medieval Literature. (M)

An introductory course to the literature of the French Middle Ages. French literature began in the 11th and 12th centuries. This course examines the extraordinary period during which the French literary tradition was first established by looking at a number of key generative themes: Identity, Heroism, Love, Gender. All readings and discussions in French.

SM 340. French Renaissance Literature. (C)

This course introduces a diverse and fascinating era, which marks the beginning of the early modern period. It examines the political, historical, and social context of France and investigates how contemporary writers and poets translated the discoveries of Humanism into their works. Authors to be studied include the poets Clement Marot, Maurice Sceve, Louise Labe, Pernette Du Guillet, Ronsard and Du Bellay. In addition, a number of stories from Marguerite de Navarre's rewriting of the "Decameron" (L'Heptameron), as well as Rabelais's comic work "Pantagruel" and some essays of Montaigne will be analyzed.

SM 350. 17th Century French Literature. (C)

We will read a number of the masterpieces of the Golden Age of French literature, including works by Moliere, Racine, Lafayette, and La Fontaine. We will place special emphasis on the social and political context of their creation (the court of Versailles and the most brilliant years of Louis XIV's reign).

SM 360. (GSWS360, HIST211) French Literature of the 18th Century. (M)

Topics vary. For current course description, please see French Department's webpage:
<https://www.sas.upenn.edu/french/pc>

SM 370. French Literature of the 19th Century. (M)

Topic changes each semester.

SM 379. Short Narratives in Fantastic Literature. (M)

This course will explore fantasy and the fantastic in short tales of 19th and 20th century French literature. A variety of approaches - thematic, psychoanalytic,

cultural, narratological - will be used in an attempt to define the subversive force of a literary mode that contributes to shedding light on the dark side of the human psyche by interrogating the "real," making visible the unseen and articulating the unsaid. Such broad categories as distortions of space and time, reason and madness, order and disorder, sexual transgressions, self and other, will be considered.

Readings usually include "recits fantastiques" by Merimee, Gautier, Nerval, Villiers de l'Isle-Adam, Maupassant, Breton, Jean Ray, Mandiargues and others.

SM 380. (COML381) Literature of the Twentieth Century. (M)

This course, the theme of which changes from semester to semester, provides an introduction to important trends in twentieth-century literature. Please check the French Department's website for the course description.
<https://www.sas.upenn.edu/french/pc>

L/R 382. (CIMS382, COML372) Horror Cinema. (C) Met. The course will be taught in English. French credit by arrangement with Instructor.

The purpose of this course is to provide an introduction to the history and main themes of the supernatural/horror film from a comparative perspective. Films considered will include: the German expressionists masterworks of the silent era, the Universal classics of the 30's and the low-budget horror films produced by Val Lewton in the 40's for RKO in the US, the 1950's color films of sex and violence by Hammer studios in England, Italian Gothic horror or giallo (Mario Brava) and French lyrical macabre (Georges Franju) in the 60's, and on to contemporary gore. In an effort to better understand how the horror film makes us confront our worst fears and our most secret desires alike, we will look at the genre's main iconic figures (Frankenstein, Dracula, Dr. Jekyll and Mr. Hyde, etc.) as well as issues of ethics, gender, sexuality, violence, spectatorship through a variety of critical lenses (psychoanalysis, socio-historical and cultural context, aesthetics,...).

SM 384. The French Novel of the Twentieth Century. (M)

Please check the French department's website for the course description:
<https://www.sas.upenn.edu/french/pc>

SM 385. Modern French Theater. (M)

A study of major movements and major dramatists from Giraudoux and Sartre to the theater of the absurd and its aftermath.

SM 389. France and Its Others. (M)

A historical appreciation of the impact of the exploration, colonization, and immigration of other peoples on French national consciousness, from the 16th century to the present. Emphasis is on the role of the Other in fostering critiques of French culture and society. Readings include travel literature, anthropological treatises, novels, and historical documents. Oral presentations and several short papers are included in the course.

SM 390. (AFRC391, AFST390) Survey Francophone Literature. (M)

A brief introduction about the stages of French colonialism and its continuing political and cultural consequences, and then reading in various major works -- novels, plays, poems -- in French by authors from Quebec, the Caribbean, Africa (including the Maghreb), etc. Of interest to majors in International Relations, Anthropology and African Studies as well as majors in French. Taught in French.

SM 391. Litterature Quebecoise. (M)

SM 394. (AFRC293) Topics in Caribbean Literature. (M)

This course will introduce students to the literature of the French-speaking Caribbean (West Indian Literature) in the context of literary history and modern culture. Select works will be examined individually and in relation to each other. We will explore the themes that link these works, comparisons and contrasts in literary techniques, and approaches to language.

398. Honors Thesis. (C)

399. Independent Study. (C)

See instructor for permission.

Graduate Level Courses

SM 500. Proseminar. (M)

This course will provide a forum for collective preparation for the Master's exam.

SM 512. History of Literary Theory. (M)

An exploration of literary theory centering on a few concepts (tradition, textuality, interpretation, ideology, authority) and problematizing the ways in which we read literature.

SM 550. (COML549) Etudes sur le XVII siecle. (M)

The specific topics of the seminar vary from semester to semester, depending on

the instructor and his/her choice. Among the topics previously covered, and likely to be offered again, are the following: The Theatre of Jean Racine, Fiction of Mme de Lafayette, The Moralists (La Bruyere, La Rochefoucauld, Perrault), Realistic Novels (Sorel's Francion, Scarron's Le Roman Comique, Furetiere's Le Roman Bourgeois). Students Give oral and written reports, and write a term paper.

SM 573. (ARTH573, CIMS515, COML570, ENGL573, GRMN573) Topics in Criticism and Theory. (M)

SM 580. Studies in 20th-Century French Literature. (M)

SM 582. (COML589) Fantastic Literature 19th/20th Centuries. (M)

This course will explore fantasy and the fantastic in short tales of 19th- and 20th-century French literature. A variety of approaches -- thematic, psychoanalytic, cultural, narratological -- will be used in an attempt to test their viability and define the subversive force of a literary mode that contributes to shedding light on the dark side of the human psyche by interrogating the "real," making visible the unseen and articulating the unsaid. Such broad categories as distortions of space and time, reason and madness, order and disorder, sexual transgressions, self and other will be considered. Readings will include "recits fantastiques" by Merimee, Gautier, Nerval, Maupassant, Breton, Pieyre de Mandiargues, Jean Ray and others.

SM 590. (AFRC591, AFST560, COML596) Introduction to Francophone Studies. (M)

An introduction to major literary movements and authors from five areas of Francophonie: the Maghreb, West Africa, Central Africa, the Caribbean and Quebec.

SM 591. Francophone Cultures. (M)

SM 595. Travel Literature. (M)

Within the context of the ill-defined, heterogeneous genre of the travelogue and of today's age of globalization, CNN and the Internet, this seminar will examine the poetics of travel writing based largely albeit not exclusively on travel notebooks, or journaux/carnets de voyage, spanning the XXth century from beginning to end. One of the principal specificities of the texts studied is that they all evince to a lesser or greater degree a paradoxical resistance both to the very idea of travel(ing) as such and to the mimetic rhetoric of traditional travel narratives. We will therefore look at how modern or postmodern texts question, revisit, subvert or reject such key notions of

travel literature as exoticism, nostalgia, exile, nomadism, otherness or foreignness vs. selfhood, ethnology and autobiography, etc.

Authors considered will include Segalen, Morand, Michaux, Leiris, Levi-Strauss, Butor, Le Clezio, Baudrillard, Bouvier, Jouanard, Leuwers.

SM 600. Old French. (B)

A systematic study of the structure of Old French including phonology, morphology, syntax, and lexicon as well as intensive practice in reading Old French texts with an emphasis on 12th- and 13th-century texts. By the end of the semester, students should be able to read works in Old French with the aid of a dictionary. Attention will be paid to the chronological differences between earlier and later Old French as well as to the major dialectal differences. Students will also be familiarized with the major research tools, dictionaries and grammars for working on Old French.

SM 601. (ITAL690, ROML690, SPAN609) Language Teaching/Learning. (M)

Please check the French department's website for the course description: <https://www.sas.upenn.edu/french/pc>

SM 602. Theory and Criticism. (M)

Please see the department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 603. Poetique Du Recit.

SM 606. Postcolonial Theory. (M)

SM 610. Intro to French Cinema. (M)

SM 611. (CIMS611) Topics in Cinema Studies. (M)

SM 612. Film Noir. (M)

Topics vary. Please see the French department's website for the current course description: <https://www.sas.upenn.edu/french/pc>

SM 619. (COML619) Poetique du Recit. (M)

SM 620. (COML625, HSPV620) Global Perspectives in French Studies. (A)

Topics vary. Please see the department's website for the current course description: <https://www.sas.upenn.edu/french/pc>

SM 630. (COML630, ITAL630) Introduction to Medieval French Literature. (M)

Topics vary. Previous topics include The Grail and the Rose, Literary Genres and Transformations, and Readings in Old French Texts. Please see French department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 631. Epic and Romance. (M)

Topics will vary. Please see French department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 634. Le Roman de la Rose. (M)

SM 635. (COML714) Late Medieval Literature. (M)

One possible topic is "History and Allegory: Problems of Representation." Considers several privileged cases of the relationship between the contemporary historical subject (dangerous, unstable) and the allegorical mode of representation (literary-philosophical, distancing, cerebrally interpretive). Texts to be studied include the "Roman de Fauvel" (and the spectacular corruption of Philippe le Bel's court in early 13th-century Paris); Christine de Pizan's "Epistre d'Othea" and "Jehanne d'Arc" (and mythographic-allegorical treatments of the "crisis of the Hundred Years War" in the late 14th and early 15th centuries); as well as Froissart and de la Sale. Please see French department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 638. (COML638, MUSC710) Topics: Medieval Culture. (M)

Topics will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 640. (COML643, GSWS640) Studies in the Renaissance. (M)

Topics vary. Previous topics have included Rabelais and M. de Navarre, Montaigne, and Renaissance and Counter-Renaissance. Please see French department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 641. French Poetry of the 16th Century. (M)

SM 650. (COML651, GRMN651, HIST651) Studies in the 17th Century. (M)

Topics of discussion will vary from semester to semester. One possible topic is "The Royal Machine: Louis XIV and the

Versailles Era." We will examine certain key texts of what is known as the Golden Age of French literature in tandem with a number of recent theoretical texts that could be described as historical. Our goal will be to explore the basis of "the new historicism," a term that is designed to cover a variety of critical systems that try to account for the historical specificity and referentiality of literary texts. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 652. (COML652, GSWS652) Early Modern French Women Writers. (M)

Topics of will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 654. (COML658, ENGL730, GRMN665, MUSC654) Early Modern Seminar. (M)

Topics will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 660. (COML620, ENGL748, GSWS748) Studies in the Eighteenth Century. (M)

Topics of discussion will vary from semester to semester. One possible topic is "Masterpieces of the Enlightenment." We will read the most influential texts of the Enlightenment, texts that shaped the social and political consciousness characteristic of the Enlightenment--for example, the meditations on freedom of religious expression that Voltaire contributed to "affaires" such as the "affaire Calas." We will also discuss different monuments of the spirit of the age--its corruption (Les Liaisons dangereuses), its libertine excesses and philosophy (La Philosophie dans le boudoir). We will define the specificity of 18th-century prose (fiction), guided by a central question: What was the Enlightenment? Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 662. (COML661) The Epistolary Novel. (M)

From the Regency to the Revolution, the French 18th century was obsessed with the present moment. In literature, this obsession manifests itself most clearly in the epistolary novel, which became the privileged form of expression chosen by all the major authors of the age. Because of the rise of epistolary, the art of "writing to the moment," in Richardson's memorable formulation, must be seen as one of the Enlightenment's principal voices. And, for

the first time, the letter became a highly valued means of communication, in both the private and the public domains.

We will read most of the major epistolary novels beginning with the genre's first classic, "Lettres portugaises," and ending with its masterpiece, "Liaisons dangereuses." We will consider some real correspondences--for example, Sevigne's and Diderot's--to see how the urge to turn them into novels proved irresistible, to editors and authors alike. Finally, we will read several examples of what was known as the "public" letter, philosophical texts that used the epistolary form (for example, Diderot's "Lettre sur les aveugles"), to see how the techniques of epistolary survived the transition into the realm of the polemical.

SM 670. (COML669) 19th-Century Studies. (M)

Topics will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 671. 19th-Century French Poetry. (M)

Topics of discussion will vary from semester to semester. A representative description follows: Rimbaud, Lautreamont, Mallarme. One half of the course will be devoted to Rimbaud and Lautreamont, the second half to Mallarme. We will attempt to focus on such points as the revolution in poetic language, the textual body, the (en)gendering of the subject. Students will be required to read critical and theoretical writings on these questions, and discuss them in class presentations. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 672. Major Authors 19th Century. (M)

SM 673. 19th Century Literature and the Arts. (M)

Topics will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 674. The 19th-Century French Novel. (M)

The development of the French novel in the 19th-century: structure and theory, ideological and historical questions. Focus may vary.

SM 675. Topics in 19th Century Literature. (M)

Topics will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 676. Science and Literature. (M)

SM 680. (CIMS680, COML595) Studies in the 20th Century. (M)

Topics will vary. Please see the French department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 681. Studies in Modern French Poetry. (M)

How does one approach the modern poetic text which ever since the Mallarmean "crise de vers" appears to have cut loose from all referential anchoring and traditional markers (prosody, versification, etc.)? This course will present an array of possible methodological answers to this question, focusing on poetic forms and manifestations of brevity and fragmentation. In addition to being submitted to precise formal and textual inquiries, each text or work will be the point of departure for the analysis of a specific theoretical issue and/or an original practice - e.g., genetic criticism, translation theory, the poetic "diary", aphoristic modes of writing, quoting and rewriting practices, etc. Texts by key modern poets (Ponge, Chazal, Du Bouchet, Jourdan, Jabes, Michaux).

SM 684. The French Novel of the 20th Century. (M)

Topics vary. Please check the French department's website for the course description: <https://www.sas.upenn.edu/french/pc>

SM 685. Studies in 20th Century French Theater. (M)

SM 686. Major Authors 20th/21st Century. (M)

SM 687. Studies in 21st Century. (M)

Topics will vary.

SM 688. Contemporary French Culture. (M)

Topics will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 690. Francophone Studies. (M)

Topics will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 692. Caribbean Studies. (M)

SM 693. (AFRC693, AFST693) Topics in Postcolonial Studies. (M)

Topics will vary. Please see French department's website for current course

description: <https://www.sas.upenn.edu/french/pc>

SM 694. Francophone Africa. (M)

SM 695. Postcolonial France. (M)

SM 696. (AFST696, COML696) POSTCO THEORY FRANCOPHON. (C)

SM 700. (AFRC708, COML708) Topics in Interdisciplinary Studies.

Topics will vary. Please see French department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 701. Topics in Cultural Studies. (M)

Topics will vary. Please see French department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 702. Topics in Popular Culture. (M)

Topics will vary. Please see French department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 703. Representing Paris. (M)

Topics will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

SM 704. The French Atlantic. (M)

Topics will vary. Please see department's website for current course description: <https://www.sas.upenn.edu/french/pc>

851. Dissertation Proposal. (M)

999. Independent Study. (C)

Designed to allow students to pursue a particular research topic under the close supervision of an instructor.

ITALIAN (ITAL)

Basic Language Courses

SM 110. Elementary Italian I. (C)

A first semester elementary language course for students who have never studied Italian or who have had very little exposure to the language. Students who have previously studied Italian are required to take the placement test. Class work emphasizes the development of the oral-aural skills, speaking and listening. Readings on topics in Italian culture as well as frequent writing practice are also

included. Out-of-class homework requires work with the Internet, audio and video materials.

SM 112. Accelerated Elementary Italian. (C) Prerequisite(s): Proficiency in another foreign language.

An intensive two-credit course covering the first and second semester of the elementary year for students who have never studied Italian before but have already fulfilled the language requirement in another modern language, preferably a romance language. Students who have fulfilled the language requirement in a language other than a romance language will be considered on an individual basis. All students must have departmental permission to register.

Class work emphasizes the development of the oral-aural skills, speaking and listening. Readings on topics in Italian culture as well as frequent writing practice are also included. Out-of-class homework requires work with the Internet, audio and video materials.

SM 120. Elementary Italian II. (C)

Prerequisite(s): Completion of Italian 110 or placement into 2nd semester Italian.

This course is the continuation of the elementary level sequence designed to develop functional competence in the four skills. Class work emphasizes the further development of the oral-aural skills, speaking and listening. Readings on topics in Italian culture as well as frequent writing practice are also included. Out-of-class homework requires work with the Internet, audio and video materials.

SM 130. Intermediate Italian I. (C)

Prerequisite(s): Completion of Italian 120 at Penn or a placement score between 450 and 540 on the Achievement Exam (SAT II).

Italian 130 is the first half of a two-semester intermediate sequence designed to help you attain a level of proficiency that will allow you to function comfortably in an Italian-speaking environment. The course will build on your existing skills in Italian, increase your confidence and your ability to read, write, speak and understand the language, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material. You are expected to have already learned the most basic grammatical structures in elementary Italian and to review these. The course textbook, together with all supplementary materials, will allow you to explore culturally relevant topics and to develop cross-cultural skills through the exploration

of similarities and differences between your native culture and the Italian world.

SM 134. Accelerated Intermediate Italian. (C) Prerequisite(s): Italian 112 or departmental permit; proficiency in another foreign language.

Italian 134 is the intensive and accelerated course that combines in one semester the intermediate sequence (130 and 140). It will build on your existing skills in Italian, increase your confidence and your ability to read, write, speak and understand the language, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material. You are expected to have already learned the most basic grammatical structures in elementary Italian and to review these on your own. The course will allow you to explore culturally relevant topics and to develop cross-cultural skills through the exploration of similarities and differences between your native culture and the Italian world.

SM 140. Intermediate Italian II. (C)

Prerequisite(s): Completion of Italian 130 at Penn or placement into Italian 140.

Italian 140 is the second half of a two-semester intermediate sequence designed to help you attain a level of proficiency that will allow you to function comfortably in an Italian-speaking environment. The course will build on your existing skills in Italian, increase your confidence and your ability to read, write, speak and understand the language, and introduce you to more refined lexical items, more complex grammatical structures, and more challenging cultural material. You are expected to have already learned the most basic grammatical structures in elementary Italian and to review these on your own. The course will allow you to explore culturally relevant topics and to develop cross-cultural skills through the exploration of analogies and differences between your native culture and the Italian world. The course will move beyond stereotypical presentations of Italy and its people to concentrate on specific social issues together with cultural topics.

SM 180. Italian Conversation in Residence. (E) Must be resident of the Modern Language House.

SM 682. (CIMS682) Topics: Literature and Film. (M)

SM 685. (ARTH786, CIMS685, COML786) 20th Century Italian Culture. (M)

Undergraduate-Level Courses

SM 080. (COML080) Introduction to Italian Cinema. (C) Arts & Letters Sector. All Classes.

Italian national cinema from the Golden Age of silent film and classics of Neorealism to present, covering work of a dozen major directors. Films discussed in context of history from the Unification, national vs. regional identity, gender roles, contemporary politics. Readings in Italian history, Italian film history, and theory of cinema. Taught in English.

SM 100. (CIMS014, COML107, GSWS100) Topics: Freshman Seminar. (C)

Topics vary. See the Department's website at <https://www.sas.upenn.edu/italians/courses> for a description of current offerings.

SM 200. (HIST230) Medieval Culture. (M)

Topics will vary.

SM 201. Advanced Italian I. (C)

Prerequisite(s): Open to students who have satisfied the language requirement in Italian. ITAL 201 or equivalent is a prerequisite for all other courses taught in Italian at the 200/300 level.

Italian 201 will focus on a recent movie by Italian director Tullio Giordana, *La meglio gioventu* (2002), which will be used as a point of departure to explore contemporary Italian culture following its development since the 1960s. Another recent movie, *Mio fratello e figlio unico* (2007), will be viewed and analyzed at the conclusion of the course as compared to *La meglio gioventu*. Pertinent literary texts, newspaper articles, as well as material in other media will complement the analysis of the film and allow an in-depth discussion of the most important topics. The cultural material explored in the course will be also used as a basis for a review of the most difficult grammar structures, with an emphasis on those necessary to express opinion and formulate hypothesis.

Audiovisual materials and readings have been carefully chosen to develop student's comprehension and production in Italian, and to enable them to function in an academic setting in which competence at the advanced level is required. Class work will center primarily on conversation to improve students' fluency, vocabulary, and accuracy in speaking in the formal register. Homework will consist primarily, but not exclusively, of paragraph-length blog entries and 1.5-2 page compositions to improve students' ability to express

themselves correctly and elegantly in written Italian. Additionally, students will be required to prepare two five 5 minute in-class or video presentation on one or parts of an assigned sequence, and on a social or cultural issue. In place of a final exam, students will write a final essay of 5-6 pages comparing *La meglio gioventu* to another recent Italian movie, *Mio fratello e figlio unico*, that will be introduced in class during the last week of the semester.

SM 202. Advanced Italian II. (C)

Prerequisite(s): Open to students who have completed ITAL 201. Please see the Undergraduate Chair if you have any questions.

In Italian 202 (formerly 205), students will perfect their communication skills to function in the formal register appropriate for an academic setting, while continuing to explore significant aspects of contemporary Italian culture and history. Students will take further steps towards being able to understand in depth and to contextualize authentic Italian documents. Texts like films, songs, and a variety of readings, will be used as windows on particular historical periods, cultural movements, political issues, and social customs. They will serve as a tool to investigate the many facets of Italian identity and, at the same time, as a way to prepare those students who will continue their study of Italian literature and culture in higher-level courses.

Students are expected to participate willingly in conversations and all other class activities in order to perfect their oral and written ability to narrate, express opinion, hypothesize, and discuss a variety of topics quite accurately, using rich, appropriate vocabulary and grammar, and organizing paragraphs into well structured discourses, be they oral presentations, weekly compositions (2-2.5 pages) or the final essay (6-7 pages). To reach these goals, speaking, listening, reading and writing activities -- role plays, discussions, oral presentations, journals, grammar reviews -- will be based on audio-visual material and written texts provided by the instructor, and purchased and/or proposed by the students themselves, based on their independent explorations and research.

SM 203. (COLL228, COML203) Masterpieces-Italian Literature. (C)

Prerequisite(s): Open to students who have completed ITAL 201 or equivalent.

This course surveys the history of Italian literature through its major masterpieces. Beginning with Dante's *Divine Comedy*, Petrarca's love poems, and Boccaccio's *Decameron*, we will follow the development of Italian literary tradition

through the Renaissance (Machiavelli's political theory and Ariosto's epic poem), and then through Romanticism (Leopardi's lyric poetry and Manzoni's historical novel), up to the 20th century (from D'annunzio's sensual poetry to Calvino's post-modern short stories). The course will provide students with the tools needed for analyzing the texts in terms of both form and content, and for framing them in their historical, cultural, and socio-political context. Classes and readings will be in Italian. ITAL 203 is mandatory for Minors in Italian Literature and Majors in Italian Literature. If necessary, ITAL 201 can be taken at the same time as ITAL 203.

SM 204. (CIMS206, COML206) Italian History on Screen: How Movies Tell the Story of Italy. (C) Arts & Letters Sector. All Classes.

How has our image of Italy arrived to us? Where does the story begin and who has recounted, rewritten, and rearranged it over the centuries? In this course, we will study Italy's rich and complex past and present. We will carefully read literary and historical texts and thoughtfully watch films in order to attain an understanding of Italy that is as varied and multifaceted as the country itself. Group work, discussions and readings will allow us to examine the problems and trends in the political, cultural and social history from ancient Rome to today. We will focus on: the Roman Empire, Middle Ages, Renaissance, Unification, Turn of the Century, Fascist era, World War II, post-war and contemporary Italy.

SM 208. Business Italian I. (M)

Prerequisite(s): Open to students who have completed ITAL 201 or equivalent.

The course is conducted entirely in Italian and should be taken after completion of Italian 201 or equivalent. It is designed to enable students to acquire language proficiency in the current Italian business and labor world. Business terminology will be used in specific business situations such as banking, trade, communications, etc. The course will examine Italian business practices, cultural differences such as the attitude towards money, work, leisure and consumerism through websites, newspaper and magazine articles and video clips. Students will learn to read business publications, write and compose business texts, and participate in business-related conversations. Additionally, guest lecturers from the local business world with ties to Italy will provide students with information about internship and job opportunities and the knowledge necessary to navigate international and Italian commercial routes.

SM 213. (CIMS213) Contemporary Italy Through Film. (M) Arts & Letters Sector. All Classes.

Topics vary. See the Department's website for a description of the current offering at <http://www.sas.upenn.edu/italians/courses>

SM 215. Interdisciplinary Approaches to Literature and Cinema. (C)

Prerequisite(s): Open to students who have completed ITAL 201 or equivalent.

Topics vary. See the Department's website at for a description of current offerings at <http://www.sas.upenn.edu/italians/courses>

SM 216. Introduction to Literature II. (C)

Focusing on the moon and its nocturnal effects as represented in film, opera, literature and art, this course offers a survey of the last four centuries of Italian literature and culture. Man stepped on the Moon on July 20, 1969 and since then Armstrong's footprint has remained in the lunar dust. We know now that the Moon is a vast and deserted landscape where no life is possible. Now that we have succeeded in contaminating the Moon with our presence, is Science Fiction the only possible discourse on the Moon other than the one carried on by astronomers? What is left of the romantic lunar dream? Can those human footprints destroy the image of the kissing faces that romantic painters saw on the lunar disk? Can we still fly on the Moon looking for Orlando's common sense? or imagine our satellite populated by lurid, gesticulating goblins who cause the monstrous metamorphosis of werewolves? Have we finally succeeded in realizing the futuristic scream by Marinetti "Let's kill the moonlight?" These are some of the questions this course will address and discuss by reading or viewing works (in their entirety or in excerpts) by the following authors: Luciano, Ariosto, Tasso, Galileo, Goldoni, Pindemonte, Parini, Leopardi, Bellini, Donizzetti, Salgari, Capuana, D'Annunzio Pirandello, Fellini, Calvino.

SM 220. Cultura E Letteratura. (C)

Taught in Venice.

SM 222. Topics in Italian Cinema. (C)

Topics vary. See the Romance Languages Department's website at <http://www.sas.upenn.edu/italians/courses> for a description of current offerings.

SM 226. SA: Culture and Literature. (C)

Topics vary.

SM 232. (COML234) The World of Dante. (M)

Dante's masterpiece in context of 14th century culture. Selected cantos will connect with such topics as books and readers in the manuscript era, life in society dominated by the Catholic church (sinners vs. saints, Christian pilgrimage routes, the great Franciscan and Dominican orders), Dante's politics as a Florentine exile (power struggles between Pope and Emperor), his classical and Biblical literary models, his genius as a poet in the medieval structures of allegory, symbolism, and numerology. Field trip to University of Pennsylvania Rare Book Collection. Text in Italian with facing English translation.

SM 250. (FREN250, GSWS253) Female Bodies, Different Bodies. (M)

This course examines how women and gays have been depicted and interpreted in the most recent Italian novels and films. Moreover, this class analyzes the most important aspects of Italian Feminist thought. A selection from Rosi Braidotti's "Patterns of Dissonance" will be read in class. We shall read novels by Natalia Ginzburg ("Family Sayings"), Aldo Busi ("Seminar on Youth"), Pier Vittorio Tondelli ("Separate Rooms"), Alberto Moravia ("Two Women"). We shall discuss the following films: "Ernesto", "Mary Forever", "Portrait of a Woman", "The City of Women", "Forgetting Venice". Course conducted in English.

SM 260. Worldviews in Collision. (M)

This course explores the radical conflicts that developed in the 16th and 17th century Europe when Protestant reformers, scientific discoveries, and geographical explorations challenged a long-held Medieval worldview and the authority of the Roman Catholic Church. These historical developments will be studied in comparison with parallel modern issues, such as Darwinism, separation of church and state, multicultural religious conflicts. Historical readings: Machiavelli's comic play *Mandragola*, the vitriolic polemic involving Martin Luther, Thomas More, and King Henry VII; Thomas Campanella's Utopian dialogue *The City of the Sun*, selections from the scientists Copernicus and Galileo, and from *The History of the Council of Trent* by the Venetian Paolo Sarpi. Modern texts: Osborne's *Luther*, Brecht's *Galileo*, and a classic Hollywood film *Utopia*, Frank Capra's *Lost Horizon*. In introductory and final units, we shall consider how 16th and 17th century poetry and visual arts mirrored their turbulent times, with an attention to the Petrarchan tradition (Vittoria Colonna, Marino) and

stylistic changes in Italian painting, sculpture, and architecture from Renaissance to Mannerist to Baroque.

SM 280. Films From Literature. (M)

Topics vary.

SM 288. (CIMS240) Modern Italian Culture. (M)

Topics will vary.

SM 300. (ARTH301, CIMS300, COML300) Topics in Italian History, Literature, and Culture. (M) Topics will vary.

Topics vary. Please check the department's website for course description: <http://www.sas.upenn.edu/italians/courses>

SM 310. (COML310, GSWS310) The Medieval Reader. (M)

Through a range of authors including Augustine, Dante, Petrarch, Galileo, and Umberto Eco, this course will explore the world of the book in the manuscript era. We will consider 1) readers in fiction-male and female, good and bad; 2) books as material objects produced in monasteries and their subsequent role in the rise of the universities; 3) medieval women readers and writers; 4) medieval ideas of the book as a symbol (e.g., the notion of the world as God's book); 5) changes in book culture brought about by printing and electronic media. Lectures with discussion in English, to be supplemented by visual presentations and a visit to the Rare Book Room in Van Pelt Library. No prerequisites.

SM 322. (CIMS340, COML280) Italian Cinema. (M)

The course will consist of a broad and varied sampling of classic Italian films from WWII to the present. The curriculum will be divided into four units: (1) The Neorealist Revolution, (2) Metacinema, (3) Fascism and War Revisited, and (4) Postmodernism or the Death of the Cinema. One of the aims of the course will be to develop a sense of "cinematic literacy"--to develop critical techniques that will make us active interpreters of the cinematic image by challenging the expectations that Hollywood has implanted in us: that films be action-packed wish-fulfillment fantasies. Italian cinema will invite us to re-examine and revise the very narrow conception that we Americans have of the medium. We will also use the films as a means to explore the postwar Italian culture so powerfully reflected, and in turn, shaped, by its national cinema. Classes will include close visual analysis of films using video clips and slides. The films will be in Italian

with English subtitles and will include works of Fellini, Antonioni, De Sica, Visconti, Pasolini, Wertuller, Rossellini, Rossellini, Bertolucci and Moretti.

Students will be asked actively to participate in class discussion, and to write a series of critical papers keyed to the units around which the course will be organized. Substantial Writing Component.

SM 333. (COML333, ENGL323) Dante's Divine Comedy. (M) When crosslisted with ENGL 323, this is a Benjamin Franklin Seminar.

In this course we will read the *Inferno*, the *Purgatorio* and the *Paradiso*, focusing on a series of interrelated problems raised by the poem: authority, fiction, history, politics and language. Particular attention will be given to how the *Commedia* presents itself as Dante's autobiography, and to how the autobiographical narrative serves as a unifying thread for this supremely rich literary text. Supplementary readings will include Virgil's *Aeneid* and selections from Ovid's *Metamorphoses*. All readings and written work will be in English. Italian or Italian Studies credit will require reading Italian text the original language and writing about their themes in Italian. This course may be taken for graduate credit, but additional work and meetings with the instructor will be required.

SM 340. (HIST338) Topics in the Renaissance. (M)

Content Varies. Possible contents may be: Renaissance Women Writers, Love and Sexuality in the Renaissance.

SM 341. (ARTH301) Topics: Italian Art. (M)

SM 351. Mad Love. (M)

The history of an emotion and how it emerges in Italian literature, music and film.

SM 360. (COML363) Semiotics and Rhetoric. (M)

A survey of major currents in the modern theory of signs and languages, ranging from linguistics through the perspectives of semiotics, rhetoric and hermeneutics. Readings from modern works on semiotic and rhetorical theory as well as analysis of primary texts in Italian literature from Dante to Svevo, as well as other forms of communication including advertising, journalism, film and television. All readings in English.

SM 380. (CIMS379, COML382) Italian Literature of the 20th Century. (M)

Topics vary, covering a range of genres and authors.

The reading material and the bibliographical references will be provided in a course reader. Further material will be presented in class. Requirements include class attendance, preparation, and participation, a series of oral responses, and a final oral presentation.

SM 383. 20th-Century Italian Novel. (M)

SM 385. Modern Theater. (M)

A study of theater in Italian, beginning with Pirandello.

398. Honors Thesis. (C)

399. Independent Study. (C)

499. Independent Study. (A)

Graduate-Level Courses

SM 501. (COML503) Italian Literary Theory. (M) Taught occasionally. This requirement is normally satisfied by taking the Comparative Literature course in literary theory.

Basic issues in literary theory.

SM 520. (COML520) Medieval "Autobiography": Augustine to Petrarch. (M) Brownlee.

The development of a new authorial subject in Medieval and Early Modern first-person narrative.

SM 530. (COML601, ENGL524, RELS537) Medieval Italian Literature. (M)

Medieval Italian society, art, intellectual and political history. Please check the department's website for the course description.

<http://www.sas.upenn.edu/italians/graduate/courses>

SM 531. (COML533, ENGL531, ITAL333) Dante's Commedia I. (M)

This course may sometimes be taught as the first part of a two-semester sequence. "Divine Comedy" in the context of Dante's medieval worldview and culture. Please check the department's website for the course description.

<http://www.sas.upenn.edu/italians/graduate/courses>

Dante Visualizing: Dante Visualizing and Dante Visualized. Dante's Commedia has inspired art, but at the same time art is present within the Comedy itself, through

images, metaphors, descriptions and even more concrete examples. This course aims at discussing these aspects, taking into consideration also the philosophical, political and religious background of these motifs. While analyzing images in and from the Commedia, we will look at illustrations and artistic interpretations, spanning from medieval illuminations and Renaissance printed books (mainly from Van Pelt Library) to contemporary examples, and focusing on artists such as Giotto, Botticelli, Michelangelo, Blake, Dore, and Dali. The course will be taught in English.

SM 532. (COML532) Divina Commedia II. (M) Prerequisite(s): Italian 531.

"Divine Comedy" in the context of Dante's medieval worldview and culture.

SM 534. (COML534, GSWS534) Women in Poetry. (M) Prerequisite(s): Reading knowledge of Italian.

SM 535. (COML524) Petrarch. (M)

Petrarch's life and work in the context of Italian and European culture and society.

SM 537. (COML521, GSWS537) Boccaccio. (M) Brownlee.

Boccaccio's life and work in the context of Italian and European culture and society.

SM 539. (COML548) Cracking the Code: Numerology and Literature. (M)

In English. This course reconstructs traditions of Western number symbolism from antiquity (Plato, the Pythagoreans) to the early modern period with readings both in encyclopedic treatises on Arithmetic (Macrobius, Martianus Capella, Rhabanus Maurus) and in literary texts that are numerical compositions (Augustine's Confessions, Petrarch's epistle on the ascent of Mt. Ventoux, Dante's Vita Nuova and Commedia, Boccaccio's Diana's Hunt, the Old French Vie de St. Alexis, and Umberto Eco's The Name of the Rose). Discussion will focus on numerology as it relates to the medieval esthetic of order, the literary text as microcosmic counterpart to God's macrocosm, veiled meaning, and "difficult" poetics. We shall also consider the end of the tradition and what changes in science and culture brought about the disappearance of number symbolism in literature, except for a few moderns (e. g. Thomas Mann). Cross-listed with COML 548.

SM 540. (COML540, ENGL540, SPAN540) Topics: Renaissance Culture. (M)

Renaissance Italian society, art, intellectual and political history.

The development of courts is usually described as one of the main factors in the flourishing of Renaissance art, thanks to the patronage of the lords of some of Italy's most important city-states. But this patronage influenced not only painting, sculpture and architecture, but also literature, poetry and philosophy. This course will analyze some of the most significant literary masterpieces of this vibrant period, by focusing on the particular characteristics of centers like Florence, Rome, Urbino, Ferrara, Naples, as well as on the broader circulation and impact of many of these works and ideas in Europe. The authors considered will include Poliziano, Castiglione, Ariosto, and Machiavelli. The course will be taught in English, though readings will also be available in Italian upon request.

SM 562. (COML508) World Views in Collision. (M)

The impact of paradigm shifts on Italian and European culture.

SM 584. (CIMS584, COML576) 20th-Century Italian Novel and Film. (M)

The course will involve an exploration of a number of works of prose fiction and, when possible, the screening of their filmic adaptations. We will consider such genres as the historical novel (Tomasi di Lampedusa's *Il gattopardo*), biography (Dacia Maraini's *La lunga vita di Marianna Ucrìa*), autobiography (Gavino Ledda's *Padre padrone*), the mystery novel (Leonardo Sciascia's *A ciascuno il suo*), the epistolary novel (Oriana Fallaci's *Lettera ad un bambino mai nato*), the political thriller (Antonio Tabucchi's *Sostiene Pereira*), "anthropological" memoir (Carlo Levi's *Christ Stopped at Eboli*), the psycho-political case study (Alberto Moravia's *Il conformista*) and the regional short story (selections from Luigi Pirandello's *Novelle per un anno*). The class will be conducted as a seminar requiring a great deal of student participation.

SM 586. (CIMS548) Italian Women Directors. (M)

In Peter Bondanella's book, "Italian Cinema, from Neorealism to the Present," only two Italian women directors are mentioned: Lina Wertmüller and Liliana Cavani. However, in recent years, the Italian cinema has generated a new wave of Italian women directors who have significantly made their mark on the

national cinematic imagination. Francesca Archibugi, Roberta Torre, Cristina e Francesca Comencini, Antonietta De Lillo, Fiorella Infascelli, Anna Negri, Laura Muscardin among otheestablished themselves as important voices of the last generation of Italian filmmakers in feature films, Angela Ricci Lucchi in the realm of non-fiction films and Alina Marazzi in the realm of documentary. In this course, we are going to explore their films, in connection to feminist and post-feminist culture in Italy, examining the originality of their approach and their relationships to the challenges offered by the advent of new technologies. The course will be taught in Italian.

SM 588. (CIMS548, COML587) Cinema and the Sister Arts. (M)

Cinema as a pan-generic system constructed of other art forms, including fiction, theater, painting, photography, music and dance.

SM 601. Time and Literature. (M)

The perceptions of Time differ according to various societies, conceptions of history, religious and literary traditions. Literature not only inhabits Time, but forges it. The course will focus on representations and elaborations of time throughout the Italian culture from Dante to the XX Century. We will deal also with the theoretical issues connected with the relation between time and history. The course will be taught in Italian. Undergraduates need permission.

SM 602. (COML602) Tools of the Trade. (M)

Theoretical and practical aspects of academic research. Please check the department's website for the course description.
<http://www.sas.upenn.edu/italians/graduate/courses>

SM 603. Sociolinguistic Varieties. (M)

SM 630. (COML630, ENGL795, FREN630) Medieval Italian Lierature. (M)

Medieval Italian society, art, intellectual and political history. Advanced level course.

SM 631. (COML632) Dante's Commedia. (M)

"Divine Comedy" in the context of Dante's medieval worldview and culture. Advanced level course.

SM 634. Woman's Place. (M)

Poetry by women and about women. Advanced level course.

SM 640. (COML641, HIST620) Studies in the Italian Renaissance. (M)

Renaissance Italian society, art, intellectual and political history. Advanced level course.

SM 660. 18th Century Italian Culture. (M)

18th century Italian society, art, intellectual and political history.

SM 672. Narrativa '800-'900. (M)

Modern and contemporary Italian fiction.

SM 681. (CIMS684) Represen Women Ital Cine. (M)

SM 684. (CIMS684) 20th-Century Novel. (M)

Contemporary Italian fiction

990. Masters Thesis. (C)

995. Dissertation. (C)

998. Tutorial. (C)

999. Independent Study. (C)

Undergraduate Level Courses

101. Italian Survival Kit: The Language and Culture of getting around in Italy. Veneziano Broccia.

The following course is delivered in a fully online format in order to allow more flexibility for LPS students. Class sessions are offered through a course website and include live lectures and interactive discussions through both direct messaging and voice over internet. Between classes, the learning experience is extended through assignments, threaded discussions and office hours. For additional information, please visit
<http://www.sas.upenn.edu/lps/online>

This online course provides the flexibility of distance-learning and content that is taught efficiently in order to be used practically. If you are going to Italy and questioning how you will survive your total immersion experience, this course will provide you with the linguistic and cultural survival skills you will need to effectively function in Italy and fully enjoy its wonders. In this course, you will learn and practice the language you need to talk about: yourself; others; travel; public transportation; housing; food; shopping; technology; health; money, etc. Class meetings combine original as well as online, authentic content. Adobe Connect allows students to engage in collaborative interaction under the instructor's supervision. Students participate in

conversations that replicate day-to-day life in Italy thereby developing the skills needed for face-to-face and online situations.

This course is open to students who have never taken Italian and who don't intend to satisfy the language requirement by taking courses in Italian.

PORTUGUESE (PRTG)

Basic Language Courses

SM 110. Elementary Portuguese I. (A)

Portuguese 110 is a first-semester introductory language course for students who have not studied Portuguese before, or who have had very little exposure to the language. The course will emphasize the development of foundational reading, writing, listening and speaking abilities within a cultural context. Students will participate in paired and group activities designed to elicit meaningful and accurate exchanges of information. The course will introduce students to Portuguese and Lusophone culture through a variety of authentic materials, including texts, songs, films and other audio and video material. Classes will be conducted in Portuguese.

SM 114. Portuguese for Spanish Speakers. (C)

Portuguese 114 is designed for students who have studied Spanish. The course begins with exposure to basic vocabulary and structures, advancing at an accelerated pace. Classroom activities will emphasize pronunciation, spoken production as well as language structures and vocabulary. Students will participate in pairs, small-groups and whole-class activities that focus on the meaningful and accurate exchange of information. The class will be conducted in Portuguese.

SM 120. Elementary Portuguese II. (B) Prerequisite(s): PRTG 110 or equivalent.

This class continues the development of a basic proficiency that will help reinforce the student's abilities and confidence. A broad range of lively, high-interest readings such as newspaper and magazine articles in current events on Brazilian culture will allow the student to gain a genuine sense of current usage. A Brazilian movie is presented and discussed in groups. Daily homework assignments involve writing exercises, short compositions and group projects.

SM 130. Intermediate Portuguese I.

(A) Prerequisite(s): PRTG 120 or instructor's permission.

This is an intermediate course designed, in a four-course strand, for students who have taken at least two semesters of Portuguese. Classroom activities will emphasize pronunciation, spoken production as well as language structures and vocabulary with the objective to develop your skills in Portuguese. In addition, students will explore movies, music and other media to further develop reading, speaking and interpretive skills in Portuguese. The course will be conducted in Portuguese.

SM 140. Intermediate Portuguese II.

(B) Prerequisite(s): PRTG 130 or instructor's permission.

This is a fourth-semester intermediate course, in a four-course strand, designed for students who have taken at least three semesters of Portuguese. Classroom activities will emphasize pronunciation, spoken production, grammar and language structures, and vocabulary at the advanced intermediate level. Students will explore movies, readings, news, music and other media as they further develop speaking, writing, reading and interpretive skills in Portuguese. The course will be conducted in Portuguese.

Undergraduate-Level Courses

SM 202. Advanced Portuguese. (M)

Prerequisite(s): PRTG 134, PRTG 140 or instructor's permission.

This course is designed for students who have already taken basic and intermediate levels of Portuguese. It complements students' knowledge of Portuguese by emphasizing the use of advanced grammatical structures and vocabulary. Classes will focus on practicing such advanced language structures by reading a diverse range of texts, including short stories by different authors of the Lusophone countries, and two novels; speaking and writing about a variety of contemporary texts; watching movies and documentaries; and listening to news, songs and other authentic audio material. The emphasis will be on language usage and culture. This course will be conducted in Portuguese.

SM 215. Portuguese for the Professions. (D)

Prerequisite(s): Portuguese 202.

Portuguese for the Professions is designed for advanced-level students to develop their ability to use a wide technical vocabulary. The course will cover an array of topics in the areas of Economy, Politics, Science,

Technology, Law and others as they pertain to the societies and cultures of the Lusophone countries, with particular emphasis placed on Brazil. Through readings, movies, discussions, essays and presentations, students will enhance their ability to write about and discuss these topics while employing the appropriate technical vocabulary.

SM 216. Business Portuguese I. (A)

SM 217. Portuguese for the Professions II. (B) Prerequisite(s): PRTG 202.

Portuguese for the Professions II is a second-semester course designed to provide advanced-level students with exposition to, and practice in, a wide variety of technical vocabulary, and to develop their communicative skills on topics related to Brazil's economic, social and historical context. Classroom activities will be based on the readings and discussions of articles, papers, the viewing of documentaries and other visual media, covering an array of topics within the proposed themes. The course will be conducted in Portuguese.

SM 221. (COLL223, LALS231) Perspectives in Brazilian Culture. (M)

Mercia Flannery. Prerequisite(s): Portuguese 202.

Topics vary. For current course description, please see department's webpage:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 240. (CIMS232, COLL223, LALS240) Topics in Brazilian Culture. (C)

Prerequisite(s): Prerequisite is Portuguese 202.

Topics vary. For current course description, please see department's webpage:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

ROMANCE LANGUAGES (ROML)

Basic Language Courses

SM 250. (HIST179) GOLDEN AGE SPAIN. (C)

Undergraduate Level Courses

SM 112. Beginning Haitian Creole. (M)

Staff. Prerequisite(s): none. offered as a hybrid course with an online component.

This course is an introduction to HAitian Creole language. Students will explore the

complex narrative of Haiti and its people. The class draws on a variety of methods and media to develop students' abilities in oral and written communication. Students with research, professional, or personal interests in Haiti or Haitian Diaspora are encouraged to enroll.

SM 113. Haitian Creole.

SM 218. SA: Miscellaneous - Lit.

SM 290. (COML284, ENGL270, LALS291) Lat American Literature. (M)

Graduate Level Courses

SM 512. (CLST511, COML501, ENGL571, GRMN534, SLAV500) History of Literary Theory. (M)

SM 690. (FREN601, FREN690, ITAL690, SPAN609) Applied Linguistics and Language Teaching. (M)

This is a year long course required of all first-year Teaching Assistants in French and Italian. It is designed to provide new instructors with the necessary practical support to carry out their teaching responsibilities effectively. It will also introduce students to various approaches to foreign language teaching as well as to current issues in second language acquisition.

SM 691. (EDUC673, GRMN517) Technology and Foreign Languages. (M)

Prerequisite(s): Romance Languages 690 or its equivalent.

This course will introduce participants to the field of technology and foreign language teaching and learning. It will review the pertinent theoretical underpinnings for the pedagogically-sound use of technology in the teaching of languages starting with a brief overview of the historical development of the field. Students will learn to evaluate existing programs and applications with a critical eye through a systematic examination of projects which have been implemented both here at Penn and elsewhere. The course will also have weekly hands-on workshops to introduce participants to the design and development of multimedia materials, including image, video and sound editing. The focus will be primarily on Web-based design and delivery. All participants will select a project to work on during the course of the semester; in addition they develop an online teaching portfolio.

SPANISH (SPAN)*Basic Language Courses***SM 110. Elementary Spanish I. (C)**

Prerequisite(s): A score below 380 on the SAT II or below 285 on the online placement examination.

Spanish 110 is a first-semester elementary language course designed for students who have not previously studied Spanish or who have had very little exposure to the language. This course emphasizes the development of foundational reading, writing, listening, and speaking skills while exploring the rich cultural mosaic of the Spanish-speaking world. Students will participate in pair, small-group and whole-class activities that focus on meaningful and accurate communication skills in the target language.

Students who have previously studied Spanish but have not taken the SAT II exam must take the online placement examination.

SM 112. Elementary Spanish I and II: Accelerated. (A) Prerequisite(s): Permit required from the course coordinator.

Spanish 112 is an intensive course designed for students who have already satisfied the language requirement in another language and have not previously studied Spanish. By combining the curriculum of Spanish 110 and 120, Spanish 112 seeks to develop students' reading, writing, listening and speaking abilities while exploring the rich cultural mosaic of the Spanish-speaking world. Students will participate in pair, small-group and whole-class activities that focus on meaningful and accurate communication skills in the target language.

SM 115. Spanish for the Medical Professions, Elementary I. (A)

Prerequisite(s): A score below 380 on the SAT II or below 285 on the online placement examination. Offered through the Penn Language Center.

Spanish 115 is a first-semester elementary medical Spanish language course and the first in the Spanish for the Medical Professions sequence. It is designed for students with no prior coursework in Spanish. This course teaches beginning students the fundamentals of practical Spanish with an emphasis on medical situations and basic medical terminology. In this course, particular attention will be given to developing speaking and listening skills, as well as cultural awareness. It incorporates activities, vocabulary, and readings of particular interest to healthcare practitioners, while adhering to the goals

and scope of Spanish 110, the first-semester Spanish language course.

Students who have previously studied Spanish but have not taken the SAT II exam must take the online placement examination.

SM 120. Elementary Spanish II. (C)

Prerequisite(s): Successful completion of Spanish 110 or 115 or permission of the course coordinator.

The continuation of Spanish 110, Spanish 120 is a second-semester elementary language course. See the description of Spanish 110.

SM 121. Elementary Spanish I and II: Advanced Beginners. (C)

Prerequisite(s): A score of 380-440 on the SAT II or 285-383 on the online placement examination.

Spanish 121 is designed for students who have some prior experience in Spanish. This course provides a quick-paced review of material normally covered in a first-semester Spanish course and then proceeds to introduce new material so students will be prepared to take Spanish 130 during the subsequent semester.

As other Spanish courses, Spanish 121 emphasizes the development of foundational reading, writing, listening, and speaking skills while exploring the rich cultural mosaic of the Spanish-speaking world. Students will participate in pair, small-group and whole-class activities that focus on meaningful and accurate communication skills in the target language.

SM 125. Spanish for the Medical Professions, Elementary II. (B)

Prerequisite(s): Successful completion of Spanish 110 or 115 or a score of 380-440 on the SAT II or 285-383 on the online placement examination. Offered through the Penn Language Center.

The continuation of Spanish 115, Spanish 125 is a second-semester elementary medical Spanish language course. See the description of Spanish 115.

SM 130. Intermediate Spanish I. (C)

Prerequisite(s): Successful completion of Spanish 112, 120, 121 or 125 or a score of 450-540 on the SAT II or 384-453 on the online placement examination.

Spanish 130 is a first-semester intermediate-level language course that emphasizes the development of the four basic skills (reading, writing, listening and speaking skills) within a culturally based context. Class time will focus on communicative activities that combine grammatical concepts, relevant vocabulary,

and cultural themes. Students will participate in pair, small-group and whole-class activities to practice linguistics skills in meaningful contexts. Major course goals include: the acquisition of intermediate-level vocabulary, the controlled use of the past tense, and the development of writing skills at a paragraph level with transitions.

SM 134. Intermediate Spanish I and II: Accelerated. (B) Prerequisite(s):

Spring semester prerequisites: Permit required from the course coordinator. Summer prerequisites: Successful completion of Spanish 112, 120, 121 or 125 or a score of 450-540 on the SAT II or 384-453 on the online placement examination.

Spanish 134 is an intensive intermediate-level language course that covers the material presented in Spanish 130 and Spanish 140. The course emphasizes the development of the four canonical skills (reading, writing, listening and speaking) within a culturally based context. Class time will focus on communicative activities that combine grammatical concepts, relevant vocabulary, and cultural themes. Students will participate in pair, small-group and whole-class activities to practice linguistics skills in a meaningful context. Major course goals include: the acquisition of intermediate-level vocabulary, the controlled use of the past tense and major uses of the subjunctive, and the development of writing skills.

During the spring semester, Spanish 134 is limited to those students who have satisfied the language requirement in another language. During the summer, the course is open to all students who meet placement requirements.

This course satisfies the language requirement in Spanish.

SM 135. Spanish for the Medical Professions, Intermediate I. (A)

Prerequisite(s): Successful completion of Spanish 112, 120, 121 or 125 or a score of 450-540 on the SAT II or 384-453 on the online placement examination. Offered through the Penn Language Center.

Spanish 135 is a first-semester intermediate-level medical Spanish language course that emphasizes the development of the four basic skills (reading, writing, listening, and speaking), and the acquisition of medical terminology. Students will be expected to participate in classroom activities such as role-plays based on typical office and emergency procedures in order to develop meaningful and accurate communication skills in the target language. Students will also review and acquire forms and structures useful both inside and outside the medical field.

SM 140. Intermediate Spanish II. (C)

Prerequisite(s): Successful completion of Spanish 130 or 135 or a score of 550-640 on the SAT II or 454-546 on the online placement examination.

Spanish 140, the continuation of Spanish 130, is a fourth-semester language course that offers students the opportunity to acquire communicative skills (reading, writing, listening and speaking) while developing their awareness and appreciation of the Spanish-speaking world. Topics studied may include the environment, the arts, social relations, and conflict and violence.

This course satisfies the language requirement in Spanish.

SM 145. Spanish for the Medical Professions, Intermediate II. (C)

Prerequisite(s): Successful completion of Spanish 130 or 135 or a score of 550-640 on the SAT II or 454-546 on the online placement examination. Offered through the Penn Language Center.

The continuation of Spanish 135, Spanish 145 is a second-semester intermediate-level medical Spanish language course. See the description of Spanish 135.

This course satisfies the language requirement in Spanish.

Undergraduate-Level Courses

SM 180. Spanish Conversation. (E)

Prerequisite(s): Residence in Modern Language House.

Must be a resident of the Modern Language College House.

SM 202. Advanced Spanish. (C)

Prerequisite(s): Successful completion of Spanish 140 or equivalent.

The purpose of this course is twofold: (a) to develop students' communicative abilities in Spanish, that is, speaking, listening, reading and writing, and (b) to increase their awareness and understanding of Hispanic cultures and societies. Homework and classroom activities are designed to help students build their oral proficiency, expand and perfect their knowledge of vocabulary and grammatical structures, improve their reading and writing skills, and develop their critical thinking abilities. The material for this class includes short stories, newspaper articles, poems, songs, cartoons, video clips and a novel, such as Sergio Bizio's *Rabia*. At the completion of this course students will feel confident discussing and debating a variety of contemporary issues (cultural and religious practices, family relationships, gender stereotypes, political events, immigration to the USA, etc.).

SM 208. Business Spanish I. (C)

Prerequisite(s): Successful completion of Spanish 140 or equivalent.

Spanish for Business I provides advanced-level language students with technical vocabulary and communicative skills covering business concepts as they apply to the corporate dynamics of the Spanish-speaking world, with a special emphasis on Latin America. Through readings, presentations, discussions, and video materials, we shall analyze those cultural aspects that characterize the business environment in the region as well as focus on economies and markets in light of their history, politics, resources and pressing international concerns.

SM 209. Business Spanish II. (A)

Prerequisite(s): Permission from the instructor.

Business Spanish II, Advanced Spanish for Business, is specifically designed for advanced speakers of Spanish (e.g., native speakers, heritage speakers, students who have studied in a Spanish-speaking country for at least one semester, and those who have attained an equivalent level of linguistic competency). Students will take an in-depth look at the corporate dynamics of a number of countries in Latin America, focusing on their economies and markets, as well as on the cultural and business protocols of each region. Through the creation of an entrepreneurial project and the writing of a business plan, students will enhance their business and language skills.

SM 212. Advanced Spanish II: Grammar and Composition. (C)

Prerequisite(s): Spanish 202 or equivalent.

Spanish 212 is an advanced-level language course that emphasizes the acquisition of the tools necessary for successful written expression in Spanish. These tools include a solid knowledge of the major points of Spanish grammar, an ample vocabulary, control of the mechanics of the language (spelling, punctuation, etc.), and a thorough understanding of the writing process. Throughout the semester, students will use these tools to analyze authentic texts and to produce a variety of written assignments. By the end of the course, students will have developed their awareness of the norms of standard Spanish and learned to incorporate these features into their own writing. The class will be conducted in Spanish and students are expected to speak in Spanish at all times.

SM 215. Spanish for the Professions I. (C)

Prerequisite(s): Spanish 202 or equivalent.

Spanish for the Professions is designed to provide advanced-level language students with a wide-ranging technical vocabulary and the enhancement of solid communicative skills within the cultural context of several developing Latin American countries. Focusing on topics such as politics, economy, society, health, environment, education, science and technology, the class will explore the realities and underlying challenges facing Latin America. Through essays, papers, articles, research, discussions, case studies, and videotapes, we shall take an in-depth look at the dynamics of Latin American societies. The course will focus on--but not be restricted to--Mexico, Cuba and Argentina.

SM 219. Hispanic Texts and Contexts. (C)

Prerequisite(s): Spanish 202 or Spanish 212.

The primary aim of this course is to develop students' knowledge of the geographical, historical and cultural contexts of the Spanish-speaking world. At the same time that they are introduced to research techniques and materials available in Spanish, students strengthen their language skills through reading, oral presentations, video viewing, and regular writing assignments. The course is designed to give students a broad understanding of Hispanic culture that will prepare them for upper-level course work and study abroad.

SM 223. Introduction to Literary Analysis. (C) Arts & Letters Sector. All Classes. Prerequisite(s): Spanish 202 or Spanish 212.

Literature from Spain and Latin America contains a wealth of information about language, history, and culture. The goal of this course is to help students develop skills to carefully read Spanish literary works while preparing them for upper-level courses and study abroad. We begin reviewing the main characteristics of various literary movements and of the four genres (narrative, poetry, theater and essay). During the second part of the semester, students become familiarized with a wide variety of theoretical approaches to the study of literature with the purpose of applying them to their own analytical writing. In the last part of the course students produce their own essays on a text chosen by them and based on research. Sample essays written by other students and included in the textbook will serve as models. Throughout the course

students will have ample opportunities to hone their skills through the close reading and class discussion of varied and stimulating works by Miguel de Cervantes, Jorge Luis Borges, Gabriel Garcia Marquez, Roberto Bolano, etc.

SM 250. (COML252, LALS252) Major Works of Spanish and Latin American Literature. (C) Arts & Letters Sector. All Classes.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 317. Spanish Phonetics and Morphology. (M) Prerequisite(s): Spanish 219 or Spanish 223.

An introduction to articulatory phonetics designed to give the student a practical knowledge of the Spanish sound system as compared with English. Also some work in acoustic phonetics. Students learn to use the phonetic alphabet. Basic work is followed by an introduction to the linguistic analysis of sound systems, with concentration on Spanish and English phonology. Some introductory work on regional and social variations of pronunciation in the Spanish-speaking world. Lastly, an introduction to morphological analysis of language, with particular attention to the structure of the Spanish verb and word formation. Lectures and discussion of readings.

SM 319. History of the Spanish Language. (M) Prerequisite(s): Spanish 219 or Spanish 223.

A survey treatment of the development of Latin to modern Spanish, with emphasis on relations between external history and the development of grammatical structure and vocabulary, and major sound shifts. Lectures and discussions of reading.

SM 330. Medieval Literature. (M) Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 348. Don Quijote. (M)

Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 350. (LALS350) Spanish Literature of the Golden Age. (M)

Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 351. Spanish Poetry of the Golden Age. (M) Prerequisite(s): Spanish 219.

A study of the major poets of the period including Garcilaso, Fray Luis de Leon, Herrera, San Juan de la Cruz, Gongora, Lope de Vega, and Quevedo.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 373. Spanish Romanticism, 1770-1870. (M) Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 380. (CIMS380, LALS380) Contemporary Spanish Literature. (M) Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 384. (CIMS384) Spanish Novel Since 1939. (M) Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 386. (CIMS385, GSWS386, LALS386) Studies in Spanish Culture. (C) Prerequisite(s): Spanish 219 or Spanish 223.

This course covers topics in contemporary Spanish Culture, its specific emphasis varying with the instructor. Please see the Spanish Department's website for the course description: course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 390. (CIMS390, COML390, GSWS391, LALS396) Introduction to Spanish American Literature. (M)

Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 392. (LALS392) Colonial Latin American Literature. (M)

Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 394. (LALS394) Spanish American Fiction. (M) Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 395. (LALS395) Hispanic Theater. (M) Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 396. (CIMS396, GSWS396, LALS397) Studies in Spanish American Culture. (M) Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 397. (CIMS397, GSWS397, LALS398) History of Spanish American Culture. (M) Prerequisite(s): Spanish 219 or Spanish 223.

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 400. Conference Course for Majors. (A)

Permission required.

Graduate-Level Courses

SM 580. Contemporary Spanish Literature. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 600. History of the Spanish Language. (M)

The development of the Ibero-Romance dialects from late Latin to medieval times.

SM 624. The Spanish Picaresque Novel. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 630. (ARTH740, COML628, ROML631) Studies in the Spanish Middle Ages. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 631. Medieval Spanish Epic to Romance. (M)

Analysis of the Spanish epic from its origins to its prosification in chronicles, later manifestations, and relationship to the prose romance.

SM 640. (COML640) Studies in the Spanish Renaissance. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 648. The Novelist Cervantes. (M)

Topics vary. Please see the Spanish Department's website for the current course description:

<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 682. (COML682) Seminar on Literary Theory. (A)

Topics vary. See the Spanish Department's website for the current offerings.
<http://ccat.sas.upenn.edu/roml/spanish/graduate/courses.html>

SM 684. La Novela Realista. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 686. (CIMS695) Studies in Spanish Culture. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 687. (COML687, ENGL539) The Spanish Avant-Garde. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 690. (COML691, LALS690) Studies in 19th- and 20th-Century Spanish American Literature. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 692. (COML692, LALS692) Colonial Literature of Spanish America. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 693. Vanguardias culturales hispanoamericanas. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 694. (CIMS694, COML694, LALS694) Modern Spanish American Narrative. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 697. (COML697) Studies in Latin American Culture. (M)

Topics vary. Please see the Spanish Department's website for the current course description:
<https://www.sas.upenn.edu/hispanic-portuguese-studies/pc>

SM 698. Workshop on Scholarly Writing. (M)

This course aims to develop awareness about what constitutes effective scholarly prose in Spanish. It proposes to hone the student's handling of writing as a vehicle for the expression of intellectual thought, but also to develop a consciousness of the rhetorical strategies that can be used to advance a critical argument effectively. Extensive writing exercises will be assigned; these will be followed by intense and multiple redactions of the work originally produced. The ultimate goal is to make students develop precision, correctness, and elegance in written Spanish. Students will also work on a class paper written previously, with a view to learning the process of transforming a short, limited expression of an argument into a publishable article.

999. Independent Study. (C)

SLAVIC LANGUAGES (AS) {SLAV}

L/R 135. (HIST135, RUSS135) COLD WAR: GLOBAL HISTORY. (C)

151. (COML152, RUSS151) Central and Eastern Europe: Cultures, Histories, Societies. (M) Steiner.

The reappearance of the concept of Central Europe is one of the most fascinating results of the collapse of the Soviet empire. The course will provide an introduction into the study of this region based on the commonalities and differences between Austria, Czechia, Hungary, Poland, and Slovakia. The topics will include the history of arts and literature, as well as broader cultural and historical patterns characteristic of this part of Europe.

152. (PSCI267, RUSS123) Russia and Eastern Europe in International Affairs. (M) Society Sector. All classes. Orenstein.

Russia and the European Union (EU) are engaged in a battle for influence in Eastern Europe. EU foreign policy towards its Eastern neighbors is based on economic integration and the carrot of membership. With the application of this powerful incentive, Central and Southeastern European countries such as Poland, Hungary, the Czech Republic, and Croatia have progressed rapidly towards integration with the EU (and NATO). Yet, given Russia's opposition to the further enlargement, membership is off the table for the large semi-Western powers such as Russia itself and Turkey and the smaller countries inhabiting an emerging buffer zone between Russia and the EU, such as Georgia, Ukraine, Azerbaijan, Moldova, and Belarus. These in-between countries find themselves subject to intense competition for influence between Eastern and Western powers. In this context, EU countries must balance their energy dependence on Russia and need for new markets and geopolitical stability with concern for human rights, democratic governance, and self-determination. What are the trade-offs implicit in the foreign policies of Russia, EU member states, and Eastern Europe? What are the best policy approaches? What are the main opportunities and obstacles?

153. (PSCI144, RUSS134) COMMUNISM. Orenstein.

The rise and fall of Communism dominated the history of the short twentieth century from the Russian revolution of 1917 to the collapse of the Soviet Union in 1991. As a

system of government, Communism is more or less dead, but its utopian ideals of liberation from exploitation and want live on. Communism remains the one political-economic system that presented, for a time, an alternative to global capitalism. In this course, students will gain an introduction to socialist and Communist political thought and explore Communist political and economic regimes their successes and failures, critics and dissidents, efforts at reform, and causes of collapse. We will learn about the remnants of Communism in China, North Korea, and Cuba and efforts of contemporary theorists to imagine a future for Communism.

164. (CIMS164, RUSS164) Russian and East European Film from the October Revolution to World War II. Todorov.

This course presents the Russian contribution to world cinema before WWII - nationalization of the film industry in post-revolutionary Russia, the creation of institutions of higher education in filmmaking, film theory, experimentation with the cinematic language, and the social and political reflex of cinema. Major themes and issues involve: the invention of montage, Kuleshov effect, the means of visual propaganda and the cinematic component to the communist cultural revolutions, party ideology and practices of social-engineering, cinematic response to the emergence of the totalitarian state. Great filmmaker and theorist in discussion include Vertov, Kuleshov, Eisenstein, Pudovkin, Medvedkin and others.

165. (CIMS165, RUSS165) Russian and East European Film after World War II. (M) Todorov.

This course examines the Russian and East European contribution to world cinema after WWII - Stalinist aesthetics and desalinization, WWII in film, the installation of totalitarianism in Eastern Europe and the Cold War in film, the fall of the Berlin Wall, the collapse of the Soviet Union and the post-soviet condition, cinematic representations of Yugoslavia's violent breakup; the new Romanian waive. Major filmmakers in discussion include Kalatozov, Tarkovsky, Wajda, Polanski, Forman, Mentzel, Sabo, Kusturitsa, Konchalovsky, Mikhalkov and others.

265. (GRMN265, GRMN565, JWST265, JWST465) YIDDISH IN E. EUROPE.

298. STUDY ABROAD.

SM 430. (CIMS430, RUSS430) ETHNIC CONFLICT IN FILM. (M)

115. (GSWS115) Before Transgender: Hermaphrodites in 19th Century Literature. Wilson.

This course provides a literary and cultural prehistory to contemporary discourses on transgender identity by focusing on the figure of the hermaphrodite in 19th Russia and the West. Far from a marginal subject, the hermaphrodite and intersex characters played central roles in the novels of Balzac, Tolstoy, Dostoevsky, and many others whose work we will read in this course. Interdisciplinary in nature, this course draws on 19th century discourses in medicine, psychology, opera, religious philosophy, and political theory to understand why characters who exist outside of the male/female gender binary feature so prominently in 19th century literature and cultural texts across a wide range of traditions (Anglophone, French, and Russian, and others.)

123. (EEUR152, PSCI267) Russia and Eastern Europe in International Affairs. (M) Society Sector. All classes. Orenstein.

Russia and the European Union (EU) are engaged in a battle for influence in Eastern Europe. EU foreign policy towards its Eastern neighbors is based on economic integration and the carrot of membership. With the application of this powerful incentive, Central and Southeastern European countries such as Poland, Hungary, the Czech Republic, and Croatia have progressed rapidly towards integration with the EU (and NATO). Yet, given Russia's opposition to the further enlargement, membership is off the table for the large semi-Western powers such as Russia itself and Turkey and the smaller countries inhabiting an emerging buffer zone between Russia and the EU, such as Georgia, Ukraine, Azerbaijan, Moldova, and Belarus. These in-between countries find themselves subject to intense competition for influence between Eastern and Western powers. In this context, EU countries must balance their energy dependence on Russia and need for new markets and geopolitical stability with concern for human rights, democratic governance, and self-determination. What are the trade-offs implicit in the foreign policies of Russia, EU member states, and Eastern Europe? What are the best policy approaches? What are the main opportunities and obstacles?

134. (EEUR153, PSCI144) Communism. Orenstein.

The rise and fall of Communism dominated the history of the short twentieth century from the Russian revolution of 1917 to the

collapse of the Soviet Union in 1991. As a system of government, Communism is more or less dead, but its utopian ideals of liberation from exploitation and want live on. Communism remains the one political-economic system that presented, for a time, an alternative to global capitalism. In this course, students will gain an introduction to socialist and Communist political thought and explore Communist political and economic regimes their successes and failures, critics and dissidents, efforts at reform, and causes of collapse. We will learn about the remnants of Communism in China, North Korea, and Cuba and efforts of contemporary theorists to imagine a future for Communism.

SM 149. (AFRC148, COML148) Slavery, Serfdom, and Cultures of Bondage in the U.S. and Russia. (M) Wilson.

During the Cold War, the United States and Russia were locked in an ideological battle, as capitalist and communist superpowers, over the question of private property. So how did these two countries approach the most important question regarding property that ever faced human civilization: how could governments justify the treatment of its subjects, people, as property? In 1862, Russia abolished serfdom, a form of human bondage that had existed in its territories since the 11th century. Just a year later, in 1863, Abraham Lincoln signed the Emancipation Proclamation, declaring America's slaves "then, thenceforward, and forever free." What forces, both domestic and international, both political and cultural, influenced this near simultaneous awakening in which huge swaths of the Russian and U.S. populations were liberated?

While scholars have often sought to compare slavery and serfdom as institutions, this course does not attempt to draw connections between the two. Rather, we will focus on how the slavery/anti-slavery and serfdom/anti-serfdom debates were framed in each respective country as well as how Russia used American slavery and the U.S. used Russian serfdom to shape their own domestic debates.

Though primarily literary in nature, this course will also take into account historical, journalistic, scientific, and cinematic sources in an attempt to illuminate the cultures of and against bondage that dominated Russia and the U.S., particularly in the 19th century. Attention will also be paid to systems of mass incarceration that emerged in Russia and the U.S. following the abolishment of serfdom and slavery.

151. (COML152, EEUR151) Central and Eastern Europe: Cultures, Histories, Societies. (M) Steiner.

The reappearance of the concept of Central Europe is one of the most fascinating results of the collapse of the Soviet empire. The course will provide an introduction into the study of this region based on the commonalities and differences between Austria, Czechia, Hungary, Poland, and Slovakia. The topics will include the history of arts and literature, as well as broader cultural and historical patterns characteristic of this part of Europe.

195. (COML100, ENGL100) History as Culture. Arts & Letters Sector. All Classes. Platt.

The object of the course is to investigate what happens when historical events and personages are represented in cultural life. We will study plays, novels, paintings, film and television-as well as a bit of history-taking us from Shakespeare to Downton Abbey. Auxillary readings in theory and method will allow us to grapple with the deeper questions of our readings: How and why do modern societies care about the past? What is the difference between a historical novel and a work of historiography? Do different kinds of writing offer different forms of truth about human events? As we will learn, the representation of history has a history of its own, which we can trace from the renaissance up to the present day. Readings will include works by: Shakespeare, Scott, Tolstoy, Hughes, Eisenstein, Marquez, Eco and others. In the course of the semester, students will gain competence in the interpretation of literary texts from a variety of cultures and periods, and also improve their analytical writing skills.

L/R 217. (PSCI217) RUSSIAN POLITICS. (B)

SM 222. (COML217, NELC222) Imagining Asia: Russia and the East. Staff.

This course examines the important role of the East in Russian literature and nationalism. Focusing specifically on the Caucasus, Central Asia, Iran, and Turkey, this course will analyze how Russian writers connected the East to Russian identity, and how their approaches implicate different artistic periods (Romanticism, Realism, Socialist Realism, Post-Modernism) and different political atmospheres (Tsarist Russia, Soviet Union, Post-Soviet).

Students will also ascertain how Russian literature on the East has affected and influenced literature and political

movements produced in the East. In particular, students will analyze how Soviet Central Asian writers, Iranian Socialists, and contemporary Turkish writers were influenced by Russian literature and Soviet ideology. Ultimately, this course examines the impact of Russia's cultural and political history in 20th century Central Asia and the Middle East. Readings will include works by: Pushkin, Lermontov, Tolstoy, Dostoevsky, Platonov, Chingiz Aitmatov, Sadek Hedayat, Orhan Pamuk, and others.

All readings in English.

SM 250. (CIMS250) Tarkovsky's Passions. (M) Platt.

Andrei Tarkovsky is universally acknowledged to be the greatest Soviet filmmaker of the last half of the twentieth century. In Kurosawa's assessment following Tarkovsky's death in the late 1980s, he had no equal among film directors alive now. In Ingmar Bergman's words, Tarkovsky's work was a miracle. His films are beautiful, intellectually challenging, and spiritually profound. They range from *Ivans Childhood*, an exploration of wartime experience through the eyes of a child; to *Solaris*, a philosophical essay in the form of a science-fiction thriller; to *Andrei Rublev*, an investigation of the power of art and spirituality. In this course, we will study Tarkovsky's films and life, with attention both to his formal and artistic accomplishments, his thought and writings concerning art and film, and the cultural and political contexts of his work.

SM 261. (COML255) Russian Thinkers. (M) Staff.

This class focuses on the complex relations between philosophy, history, and art in Russia and offers discussions of works of major Russian authors (such as Dostoevsky, Tolstoy, Khlebnikov), religious and political thinkers (Chaadaev, Herzen, Berdiaev, Lenin, Bogdanov), avant-garde artists (Filonov, Malevich), and composers (Skriabin) who created and tested in their lives their own, sometimes very peculiar and radical, worldviews. We will consider these worldviews against a broad cultural background and will reenact them in class in the form of philosophical mini-dramas. The only prerequisite for this course is intellectual curiosity and willingness to embrace diverse, brave and often very weird ideas.

SM 4. SCIFI&FANT IN RUSS CULT.

SM 408. READING RUSSIAN HISTORY. (M) Verkholtantsev.

The course explores defining episodes, concepts, and figures in Russian history,

from the earliest time to the present day, and their reception in today's scholarship and society. Students learn about Russian historical heritage through the reading of primary sources and analytical essays, as well as examining how this history is used in the present socio-political and ideological discourse. Work on language focuses on matters of style, sentence structure, and vocabulary building.

SM 444. (COML541, RUSS544) Russ Realism in Eur Cntx. (M)

SM 455. The Living & the Dead: The Great Patriotic War in Russ Cultural Imagination. Staff. Prerequisite(s): Prior language experience required.

This course is dedicated to the 70th anniversary of the Great Patriotic War, 1941-45. Students will explore the cultural myth of the war, created in the 1960-80s. The materials will include literary texts, documentaries, photographs, and films. We will focus on three major themes of this myth: 1. moral strength and courage; 2. respect for Russia's military past; and 3. the rise of national consciousness.

SM 471. Moscow: Cultural History. Staff.

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. An extraordinary diverse city, Moscow has acquired a number of names, referring both to its size and role in the national history: The Third Rome, The Whitestone One, The First Throne, The Forty Forties, The Hero City, and even The Big Village. In this course, students will examine the cultural history of the great city from 1147 to the present. The "itinerary" for this imaginary trip will include the Kremlin and the banyas, Saint Basil's Cathedral and the Bolshoi Theater, the Ostankino Tower and the underground palaces of the Metro, the workers' canteen and the dining rooms of the posh restaurants, etc. The course discussions will be centered on literary texts, travelers' accounts, films, and works of art and architecture.

SM 475. Doctor Zhivago in Historical Context. Staff. Prerequisite(s): RUSS361 or comparable language competence.

Russian heritage students are invited to read in original and discuss in class one of the most unusual novels of 20th century Russian literature, *Doctor Zhivago*. In 1958, the author of this novel Boris Pasternak was awarded the Nobel Prize "for his important achievement both in contemporary lyrical poetry and in the field

of the great Russian epic tradition," an event which enraged the Soviet government. Students will follow the main characters of this poetic saga in the most terrible and glorious moments of the Russian history, from the Russian Revolution of 1905 to the beginning of the Great War.

SM 519. History of Russian Literary Language and Culture. Verkholtantsev. Prerequisite(s): Any RUSS 400 level course or comparable proficiency.

This course examines the linguistic, literary, and social history of the Russian language from the medieval period to the modern day. Course topics include: the creation of the Slavic alphabets and the first literary language of the Slavs, Old Church Slavonic; the beginnings and development of writing and literacy in Old Russia; the evolution of the Russian literary language, its styles, and registers; grammatical categories of Russian; features of Russian lexicography; the social history and politics of language use; analysis of texts. Taught in Russian; readings in Russian & English; advanced language proficiency required.

SM 528. (COML528) From Late-Soviet to Non-Soviet Literature and Culture. Platt.

The aims of this course are threefold: to introduce students to some signature literary and cultural texts from roughly the post-Stalin era to the present, to equip them with relevant theoretical approaches and concerns, and finally, to offer a space where they can develop their own research projects. A major theme will be the relations between "Russian" literature and history, in which literature is not only a mimesis of the historical process but often an active agent. Throughout, we will be particularly attentive to the periphery of literature. In the first place, this means an expanded geography, the inclusion of non-Russian Soviet and emigre writers before and after 1991, as well as an effort to theorize their structural position. Secondly, we will adopt the late Formalists' understanding of literary periphery as the genres, cultural forms, institutions, and phenomena that abutted the literary field and affected its processes. Depending on student interest, our attention to these objects of inquiry could be directed toward bardic song and the later lyric-centric Russian rock, samizdat and literary internet, thick journals and literary prizes, Soviet-era dissidence and today's protest culture.

SM 548. Borderland Literature and Minority Nationalism: The role of Central Asia in Russian-Iranian Relations. (M) Yountchi.

Advanced graduate course on Central Asian and Iranian literature and history. Particular attention is given to the role of literature in Tajik-Iranian cultural exchange, the culture and history of Persian-speaking minorities in late 19th and early 20th century Caucasus and Central Asia, and the relations between center and periphery. Theories concerning Orientalism, minority nationalism and subaltern studies are also examined.

SM 549. (COML550) STALINIST CULTURE. (M)

SM 555. (COML555, HIST555) HIST EMOTIONS RUSS&WEST.

SM 618. (COML618, HIST620) Cultural History of Medieval Rus' (800-1700). Verkholtantsev.

391. SLAVIC LANGUAGE II.

394. SLAVIC LANGUAGE III.

395. SLAVIC LANGUAGE IV.

SM 575. (COML579) Slavic Literary Theory in Western Context. Steiner.

This course will compare selected theoretical concepts advanced by Russian Formalists, Prague Structuralists, and the Bakhtin group (e.g., defamiliarization, aesthetic sign, dialogue) with similar or analogous notions drawn from Western intellectual tradition.

599. INDEPENDENT STUDY.

SM 619. (COML619) East & West in Medieval Europe: Bohemia as Center in the Age of the Luxemburgs.

Brownlee and Verkholtantsev.

The seminar will examine a range of topics in Medieval Studies viewing European medieval civilization as encompassing the whole ("global") geographic and cultural space of Europe and ignoring reference to contemporary socio-political division of Europe into "Western" and "Eastern." As a case study, the course focuses on the 14th-century Holy Roman Empire from Henry VII to the Emperor Sigismund, and particularly on the reign of Charles IV, in a context in which Prague becomes the imperial capital and Bohemia a center of Europe.

A detailed examination of this monarch's vision of a "Global Europe" will allow us to explore a network of connections, a network that stretches from

Prague to the farthestmost western, eastern and southern corners of the European continent. We will examine correspondences and differences between various linguistic, textual, political, and religious communities, while attempting to show how Latin and Slavic European cultures were interwoven. Some of the titles from the reading list are Charles IV's *The Life of St. Wenceslas* and *Autobiography*, *The Golden Bull*, *Dante's Letters & Monarchia*, *Machaut's Judgement of the King of Bohemia*, *Petrarch's Epistolae & Poems*, *Froissart's Prison of Love*, *Johannes von Tepl's The Plowman of Bohemia*, *The Life of St. Constantine the Philosopher*, fragments from Czech, French, Italian, Polish, Hungarian and Russian medieval chronicles, etc. All reading will be done in English, with original language versions always available.

RUSSIAN (RUSS)

105. Accelerated Elementary Russian. (M) Staff.

TWO IN ONE: This is an intensive two-credit course covering two semesters of the first-year sequence (RUSS001 and 002). The course is designed for students with no background in Russian and develops language competence in speaking, reading, writing and understanding contemporary Russian. Class work emphasizes development of communication skills and cultural awareness. Together with RUSS003 and 004 fulfills Penn Language Requirement.

Introductory Russian Language (001-004)

001. (RUSS501) Elementary Russian I. (A) Staff.

This course develops elementary skills in reading, speaking, understanding and writing the Russian language. We will work with an exciting range of authentic written materials, the Internet, videos and recordings relating to the dynamic scene of Russia today. At the end of the course students will be comfortable with the Russian alphabet and will be able to read simplified literary, commercial, and other types of texts (signs, menus, short news articles, short stories) and participate in elementary conversations about daily life (who you are, what you do every day, where you are from, likes and dislikes).

002. (RUSS502) Elementary Russian II. (B) Staff. Prerequisite(s): RUSS 001 or equivalent.

Continuation of RUSS001. Further work developing basic language skills using exciting authentic materials about life in present-day Russia. At the conclusion of the course, students will be prepared to negotiate most basic communication needs in Russia (getting around town, ordering a meal, buying goods and services, polite conversation about topics of interest) and to comprehend most texts and spoken material at a basic level.

003. (RUSS503) Intermediate Russian I. (A) Staff. Prerequisite(s): RUSS 001 and 002 or placement exam.

This course will develop your ability to use the Russian language in the context of typical everyday situations, including university life, family, shopping, entertainment, etc. Role-playing, skits, short readings from literature and the current press, and video clips will be used to help students improve their language skills and their understanding of Russian culture. At the end of the semester you will be able to read and write short texts about your daily schedule and interests, to understand brief newspaper articles, films and short literary texts, and to express your opinions in Russian. In combination with RUSS 004, this course prepares students to satisfy the language competency requirement.

004. (RUSS504) Intermediate Russian II. (B) Staff. Prerequisite(s): RUSS 003 or placement exam.

A continuation of RUSS003. This course will further develop your ability to use the Russian language in the context of everyday situations (including relationships, travel and geography, leisure activities) and also through reading and discussion of elementary facts about Russian history, excerpts from classic literature and the contemporary press and film excerpts. At the end of the course you will be able to negotiate most daily situations, to comprehend most spoken and written Russian, to state and defend your point of view. Successful completion of the course prepares students to satisfy the language competency requirement.

SM 107. Russian Outside the Classroom I. (C) Yakubova.

Prerequisite(s): At least four semesters of Russian.

The goal of RUSS107 is to provide students of Russian language and students who spoke Russian at home with formalized opportunities to improve their

conversation and comprehension skills while experiencing various aspects of Russian culture. There will be no weekly assignments or readings, but all students will be expected to contribute at a level equivalent to their Russian-speaking abilities both in class and on the newsletter final project. The course consists of attending regular conversation hours in addition to a tea-drinking hour in the department (F 4-5pm), film viewings, and a single outside cultural event (e.g., a concert of Russian music at the Kimmel Center).

SM 108. Russian Outside the Classroom II. (C) Yakubova.

Prerequisite(s): At least four semesters of Russian, and RUSS107. Continuation of RUSS107.

This is a half-credit course that consists of a variety of fun and entertaining non-classroom Russian language activities. Students who have taken at least one semester of Russian will take part in: 1. Russian lunch and dinner table; 2. Russian Tea and conversation, featuring cartoons, poetry readings, music listening, news broadcast, games, cooking lessons, and informal visits by guests; 3. The Russian Film Series; 4. field trips to Russian cultural events in the area (symphony, drama, film, etc.); 5. other Russian Program events.

Introductory/Survey Russian Courses (010 - 199)

048. (HIST048) The Rise and Fall of the Russian Empire, 1552-1917. (C)

History & Tradition Sector. All classes. Nathans/Holquist.

How and why did Russia become the center of the world's largest empire, a single state encompassing eleven time zones and over a hundred ethnic groups? To answer this question, we will explore the rise of a distinct political culture beginning in medieval Muscovy, its transformation under the impact of a prolonged encounter with European civilization, and the various attempts to re-form Russia from above and below prior to the Revolution of 1917. Main themes include the facade vs. the reality of central authority, the intersection of foreign and domestic issues, the development of a radical intelligentsia, and the tension between empire and nation.

L/R 049. (HIST049) The Soviet Century, 1917-1991. (B) History &

Tradition Sector. All classes. Nathans/Holquist.

Out of an obscure, backward empire, the Soviet Union emerged to become the great political laboratory of the twentieth

century. This course will trace the roots of the world's first socialist society and its attempts to recast human relations and human nature itself. Topics include the origins of the Revolution of 1917, the role of ideology in state policy and everyday life, the Soviet Union as the center of world communism, the challenge of ethnic diversity, and the reasons for the USSR's sudden implosion in 1991. Focusing on politics, society, culture, and their interaction, we will examine the rulers (from Lenin to Gorbachev) as well as the ruled (peasants, workers, and intellectuals; Russians and non-Russians). The course will feature discussions of selected texts, including primary sources in translation.

100. Figuring Out Russia: Introduction to Russian Culture. (M)
Verkholtantsev.

The course introduces students to major topics in Russian history, literature, art and religion. Students will learn about Russias past and present, its myths and beliefs, about its Czars and peasants, its heroes and rebels, about its artists, musicians and intellectuals, about its cities and society. Course materials include short works of major Russian authors, as well as films, musical scores and works of art. This introductory course will prepare students for more advanced and specialized courses in Russian literature and history.

SM 125. (CIMS125, COML127, GSW125) The Adultery Novel. (C)
Arts & Letters Sector. All Classes. Platt.

All readings and lectures in English.

The object of this course is to analyze narratives of adultery from Shakespeare to the present and to develop a vocabulary for thinking critically about the literary conventions and social values that inform them. Many of the themes (of desire, transgression, suspicion, discovery) at the heart of these stories also lie at the core of many modern narratives. Is there anything special, we will ask, about the case of adultery--once called "a crime which contains within itself all others"? What might these stories teach us about the way we read in general? By supplementing classic literary accounts by Shakespeare, Pushkin, Flaubert, Chekhov, and Proust with films and with critical analyses, we will analyze the possibilities and limitations of the different genres and forms under discussion, including novels, films, short stories, and theatre. What can these forms show us (or not show us) about desire, gender, family and social obligation? Through supplementary readings and class discussions, we will apply a range of critical approaches to place these narratives

of adultery in a social and literary context, including formal analyses of narrative and style, feminist criticism, Marxist and sociological analyses of the family, and psychoanalytic understandings of desire and family life.

SM 130. Russian Ghost Stories. (C)
Staff.

In this course, we will read and discuss ghost stories written by some of the most well-known Russian writers. The goal of the course is threefold: to familiarize the students with brilliant and thrilling texts which represent various periods of Russian literature; to examine the artistic features of ghost stories and to explore their ideological implications. With attention to relevant scholarship (Freud, Todorov, Derrida, Greenblatt), we will pose questions about the role of the storyteller in ghost stories, and about horror and the fantastic. We will also ponder gender and class, controversy over sense and sensation, spiritual significance and major changes in attitudes toward the supernatural.

We will consider the concept of the apparition as a peculiar cultural myth, which tells us about the "dark side" of the Russian literary imagination and about the historical and political conflicts which have haunted Russian minds in previous centuries. Readings will include literary works by Pushkin, Gogol, Dostoevsky, Turgenev, Chekhov, and Bulgakov, as well as works by some lesser, yet extremely interesting, authors. We will also read excerpts from major treatises regarding spiritualism, including Swedenborg, Kant, Arthur Conan Doyle, and Mme Blavatsky. The course consists of 28 sessions ("nights") and includes film presentations and horrifying slides.

L/R 135. (HIST135) Cold War: Global History.

136. (HIST047) Portraits of Russian Society: Art, Fiction, Drama. (M)
Humanities & Social Science Sector. Class of 2010 & beyond. Platt. No prior language experience required.

This course covers 19C Russian cultural and social history. Each week-long unit is organized around a single medium-length text (novella, play, memoir) which opens up a single scene of social history: birth, death, duel, courtship, tsar, and so on. Each of these main texts is accompanied by a set of supplementary materials: paintings, historical readings, cultural-analytical readings, excerpts from other literary works, etc. The object of the course is to understand the social codes and rituals that informed nineteenth-century Russian life,

and to apply this knowledge in interpreting literary texts, other cultural objects, and even historical and social documents (letters, memoranda, etc.). We will attempt to understand social history and literary interpretation as separate disciplines yet also as disciplines that can inform one another. In short: we will read the social history through the text, and read the text against the social history.

145. Russian Literature to the 1870s. (A)
Arts & Letters Sector. All Classes. Steiner.

Major Russian writers in English translation: Pushkin, Gogol, Turgenev, early Tolstoy, and early Dostoevsky.

155. Russian Literature after 1870s. (B)
Arts & Letters Sector. All Classes. Steiner.

Major Russian writers in English translation: Tolstoy, Chekhov, Pasternak, Babel, Solzhenitsyn, and others.

165. (CIMS165, EEUR165) Russian and East European Film After WWII. (M)
Todorov.

This course examines the Russian and East European contribution to world cinema after WWII - Stalinist aesthetics and desalinization, WWII in film, the installation of totalitarianism in Eastern Europe and the Cold War in film, the fall of the Berlin Wall, the collapse of the Soviet Union and the post-soviet condition, cinematic representations of Yugoslavia's violent breakup; the new Romanian wave. Major filmmakers in discussion include Kalatozov, Tarkovsky, Wajda, Polanski, Forman, Mentzel, Sabo, Kusturitsa, Konchalovsky, Mikhalkov and others.

L/R 188. (CIMS352, COML241, GRMN256, RELS236) The Devil's Pact Reloaded: Goethe's Faust & Bulgakov's Master i Margarita. (C)
Arts & Letters Sector. All Classes. Richter and Staff.

For centuries the pact with the devil has signified humankind's desire to surpass the limits of human knowledge and power. The legend of the devil's pact has permeated literature, art, and cinema. In this course, students will focus on two masterpieces of world literature in which the devil's pact plays out in surprising ways, Goethe's Faust and Bulgakov's Master and Margarita. Excerpts from film, art, music and popular culture will be brought in as needed. Team-taught by professors of German and Russian literature, this course will bring all the devilish details to light.

189. (PPE 062) Soviet and Post-Soviet Economy. Vekker.

The course will cover the development and operation of the Soviet centrally planned economy--one of the grandest social experiments of the 20th century. We will review the mechanisms of plan creation, the push for the collectivization and further development of Soviet agriculture, the role of the Soviet educational system and the performance of labor markets (including forced labor camps--GULags). We will discuss the strengths and weaknesses of the Soviet system and the causes of its collapse. Privatization, called by some "piratization," will be one of the central issues in our consideration of the transition from central planning to a market economy in the early 1990s. Even though our main focus will be on the Soviet economy and post-Soviet transition, we will occasionally look back in time to the tsarist era and even further back to find evidence to help explain Soviet/Russian economic development.

190. Terrorism: Russian Origins and 21st Century Methods. (M) Todorov.

This course studies the emergence of organized terrorism in nineteenth-century Russia. It examines the philosophy of the terrorist struggle through its methods, causes, various codes, and manifestoes that defined its nature for the times to come. We critique intellectual movements such as nihilism, anarchism, and populism that inspired terrorism defining the political violence and disorder as beneficial acts. The issue of policing terrorism becomes central when we study a police experiment to infiltrate, delegitimize and ultimately neutralize terrorist networks in late imperial Russia.

The discussions draw on the ideology and political efficacy of the conspiratorial mode of operation, terrorist tactics such as assassination and hostage-taking, the cell structure of the groups and underground incognito of the strikers, their maniacal self-denial, revolutionary asceticism, underground mentality, faceless omnipotence, and other attributes-intensifiers of its mystique.

We analyze the technology and phenomenology of terror that generate asymmetrical disorganizing threats to any organized form of government and reveal the terrorist act as a sublime end as well as a lever for achieving practical causes. Our study traces the rapid proliferation of terrorism in the twentieth century and its impact on the public life in Western Europe, the Balkans, and America.

191. (COMM291) Putin's Russia: Culture, Society and History. (M)

Society Sector. All classes. Platt. No prior knowledge of Russian is required.

Winston Churchill famously said that Russia "is a riddle, wrapped in a mystery, inside an enigma. Strikingly, today many informed Russians would agree: no one can provide definitive answers concerning what has driven Russian public life and politics over the past three years, as it ricocheted from the mass protests of 2011 and 2012, into the Pussy Riot scandal, then the Olympics, and most recently to the intense patriotism driving the Russian annexation of Crimea and intervention in Ukraine. In this course we will examine how Russians themselves communicate about and represent Russia and what this reveals about this complex society and its development. We will consider print journalism, novels, films, televised media, and the internet paying close attention both to particular representations and to social institutions for their production, dissemination and consumption. Topics of special concern will include: conspiracy theories, representations of Russian history, collective identity and patriotism, intellectuals and elites, gender and sexuality, consumption and wealth. Putins Russia is an introductory level course for which no prior knowledge Russian history, culture or society is required. All readings and screenings will be in English.

SM 193. (COML150, HIST149) War and Representation in Russia, Europe and the U.S. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Platt.

Representations of war have been created for as many reasons as wars are fought: to legitimate conflict, to celebrate military prowess, to critique brutality, to mobilize popular support, to vilify an enemy, and to generate national pride. In this course we will examine literary and cinematic representations of war, produced in Russia, Europe, and the United States. Over the course of the semester we will reflect on the tension between the need for memorialization and the limits of representation: How is war represented in literature and film? How do those mediums both enable and thwart us in our attempt to capture wartime experiences? What is the relationship between perspective, politics, and representation? And finally, how is the experience of being in a war refracted through gender, race, class, and sexuality? Authors we will read in this class might include Leo Tolstoy, Harriet Beecher Stowe, Stephen Crane, Ernest Hemingway, Albert Camus, John

Okada, Virginia Woolf, Kurt Vonnegut, Rabih Alameddine, and Toni Morrison.

196. Russian Short Story. (M) Todorov.

This course studies the development of 19th and 20th century Russian literature through one of its most distinct and highly recognized genres: the short story. The readings include great masters of fiction such as Pushkin, Gogol, Dostoevsky, Tolstoy, Chekhov, Solzhenitsyn, and others. The course presents the best works of short fiction and situates them in a literary process that contributes to the history of a larger cultural-political context.

Students will learn about the historical formation, poetic virtue, and thematic characteristics of major narrative modes such as romanticism, utopia, realism, modernism, socialist realism, and post-modernism. We critique the strategic use of various devices of literary representation such as irony, absurd, satire, grotesque, anecdote, etc. Some of the main topics and issues include: culture of the duel; the role of chance; the riddle of death; anatomy of madness; imprisonment and survival; the pathologies of St. Petersburg; terror and homo sovieticus.

197. (COML197) Madness and Madmen in Russian Culture. (M)

Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

This course will explore the theme of madness in Russian literature and arts from the medieval period through the October Revolution of 1917. The discussion will include formative masterpieces by Russian writers (Pushkin, Dostoevsky, Tolstoy, Chekhov, and Bulgakov), painters (Repin, Vrubel, Filonov), composers (Mussorgsky, Tchaikovsky, and Stravinsky), and film-directors (Protazanov, Eisenstein), as well as non-fictional documents such as Russian medical, judicial, political, and philosophical treatises and essays on madness.

240. (COML236, HIST333) Napoleonic Era and Tolstoy. (M)

Holquist/Vinitsky. All readings and lectures in English.

In this course we will read what many consider to be the greatest book in world literature. This work, Tolstoy's *War and Peace*, is devoted to one of the most momentous periods in world history, the Napoleonic Era (1789-1815). We will study both the novel and the era of the Napoleonic Wars: the military campaigns of Napoleon and his opponents, the grand strategies of the age, political intrigues and diplomatic betrayals, the ideologies and

human dramas, the relationship between art and history. How does literature help us to understand this era? How does history help us to understand this great novel?

This semester marks the 200th anniversary of Napoleon's attempt to conquer Russia and achieve world domination, the campaign of 1812. Come celebrate this Bicentennial with us! Because we will read War and Peace over the course of the entire semester, readings will be manageable - and very enjoyable.

Intermediate/Seminar Courses (200 - 299)

SM 201. (COML207) Dostoevsky and His Legacy. (A) Staff.

This course explores the ways Fyodor Dostoevsky (1821-1881) portrays the "inner world(s)" of his characters. Dostoevsky's psychological method will be considered against the historical, ideological, and literary contexts of middle to late nineteenth-century Russia. The course consists of three parts External World (the contexts of Dostoevsky), "Inside" Dostoevsky's World (the author's technique and ideas) and The World of Text (close reading of Crime and Punishment and The Brothers Karamazov). Students will write three essays on various aspects of Dostoevsky's "spiritual realism."

SM 202. (COML204) Tolstoy. (B) Staff. Ben Franklin Seminar.

This course consists of three parts. The first, How to read Tolstoy? deals with Tolstoy's artistic stimuli, favorite devices, and narrative strategies. The second, Tolstoy at War, explores the authors provocative visions of war, gender, sex, art, social institutions, death, and religion. The emphasis is placed here on the role of a written word in Tolstoy's search for truth and power. The third and the largest section is a close reading of Tolstoy's masterwork The War and Peace (1863-68) a quintessence of both his artistic method and philosophical insights.

SM 213. (COML213, RELS218) Saints and Devils in Russian Literature and Tradition. (M) Arts & Letters Sector. All Classes. Verkholtantsev.

This course is about Russian literary imagination, which is populated with saints and devils, believers and religious rebels, holy men and sinners. In Russia, where people's frame of mind had been formed by a mix of Eastern Orthodox Christianity and earlier pagan beliefs, the quest for faith, spirituality, and the meaning of life has invariably been connected with religious matters. How can one find the right path in

life? Is humility the way to salvation? Should one live for God or for the people? Does God even exist?

In "Saints and Devils" we read works of great masters of Russian literature and learn about the historic trends that have filled Russia's national character with religious and mystical spirit. We start with old Russian fanciful stories and legends of crafty demons and all-forbearing saints. The master of fantastic writing, Nikolai Gogol, will teach us how to triumph over the devil. Together with Anton Chekhov and Leo Tolstoy, we contemplate an ambivalent cultural image of woman as a victim or a sinful agent of the devil. Immersed in the world of Dostoevsky's The Brothers Karamazov, we follow the characters in their search for truth, faith, and love. In The Master and Margarita, Mikhail Bulgakov will tell us his fantastic and devilish story of Pontius Pilate and we will see for ourselves that "A man will receive his deserts in accordance with his beliefs."

In sum, over the course of this semester we will talk about ancient cultural traditions, remarkable works of art, and the great artists who created them. (No previous knowledge of Russian Literature necessary. All readings are in English.)

SM 220. (COML220, HIST220) Russia and the West. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff. From the Other Shore: Russia and the West.

This course will explore the representations of the West in eighteenth- and nineteenth- century Russian literature and philosophy. We will consider the Russian visions of various events and aspects of Western political and social life Revolutions, educational system, public executions, resorts, etc. within the context of Russian intellectual history. We will examine how images of the West reflect Russia's own cultural concerns, anticipations, and biases, as well as aesthetic preoccupations and interests of Russian writers. The discussion will include literary works by Karamzin, Pushkin, Gogol, Dostoevsky, Leskov, and Tolstoy, as well as non-fictional documents, such as travelers' letters, diaries, and historiosophical treatises of Russian Freemasons, Romantic and Positivist thinkers, and Russian social philosophers of the late Nineteenth century. A basic knowledge of nineteenth-century European history is desirable. The class will consist of lectures, discussion, short writing assignments, and two in-class tests.

234. (COML235, HIST219, SLAV517) Medieval Russia: Origins of Russian Cultural Identity. (M) Verkholtantsev.

This course offers an overview of the cultural history of Rus from its origins to the eighteenth century, a period which laid the foundation for the Russian Empire. The course takes an interdisciplinary approach to the evolution of the main cultural paradigms of Russian Orthodoxy viewed in a broader European context. Although this course is historical in content, it is also about modern Russia. The legacy of Medieval Rus is still referenced, often allegorically, in contemporary social and cultural discourse as the Russian, Ukrainian and Belarusian societies attempt to reconstruct and reinterpret their histories. In this course, students learn that the study of the medieval cultural and political history explains many aspects of modern Russian society, its culture and mentality.

SM 260. (HIST413) USSR after Stalin. (M) Platt & Nathans.

How are human behaviors and attitudes shaped in a socialist society? What forms do conformity and dissent take under a revolutionary regime? This course will explore the cultural history of the Soviet Union from the end of the Second World War to the collapse of communism in 1991. We will investigate a variety of strategies of resistance to state power as well as the sources of communisms enduring legitimacy for millions of Soviet citizens. Above all, we will be concerned with the power of the word and image in Soviet public and private life. Assigned texts will include memoirs, manifestos, underground and officially approved fiction & poetry, films, works of art, and secondary literature.

275. (CIMS275) Russian History in Film. (M) Todorov.

This course draws on fictional, dramatic and cinematic representations of Russian history based on Russian as well as non-Russian sources and interpretations. The analysis targets major modes of imagining, such as narrating, showing and reenacting historical events, personae and epochs justified by different, historically mutating ideological postulates and forms of national self-consciousness. Common stereotypes of picturing Russia from "foreign" perspectives draw special attention. The discussion involves the following themes and outstanding figures: the mighty autocrats Ivan the Terrible, Peter the Great, and Catherine the Great; the tragic ruler Boris Godunov; the brazen rebel and royal impostor Pugachev; the notorious Rasputin, his uncanny powers, sex-appeal, and court

machinations; Lenin and the October Revolution; images of war; times of construction and times of collapse of the Soviet Colossus.

299. Independent Study. (C) Staff.

Advanced Russian Language Courses

311. (RUSS511) Russian Conversation and Composition. (A)

Staff. Prerequisite(s): RUSS 004 or placement exam.

This course develops students' skills in speaking and writing about topics in Russian literature, contemporary society, politics, and everyday life. Topics include women, work and family; sexuality; the economic situation; environmental problems; and life values. Materials include selected short stories by 19th and 20th century Russian authors, video-clips of interviews, excerpts from films, and articles from the Russian media. Continued work on grammar and vocabulary building.

312. (RUSS512) Russian Conversation and Composition II. (B)

Staff. Prerequisite(s): RUSS 311.

Primary emphasis on speaking, writing, and listening. Development of advanced conversational skills needed to carry a discussion or to deliver a complex narrative. This course will be based on a wide variety of topics from everyday life to the discussion of political and cultural events. Russian culture and history surveyed briefly. Materials include Russian TV broadcast, newspapers, Internet, selected short stories by contemporary Russian writers. Offered each spring.

360. Russian for Heritage Speakers I. (C) Staff. Previous language experience required.

This course is intended for students who have spoken Russian at home and seek to achieve proficiency in the language. Topics will include an intensive introduction to the Russian writing system and grammar, focusing on exciting materials and examples drawn from classic and contemporary Russian culture and social life. Students who complete this course in combination with RUSS361 satisfy the Penn Language Requirement.

361. Russian for Heritage Speakers II. (B) Staff. Prerequisite(s): Prerequisites:

Russian 360 or at least three and no more than six years of Russian formal schooling, or instructor's permission.

This course is a continuation of RUSS360. In some cases, students who did not take

RUSS360 but have basic reading and writing skills may be permitted to enroll with the instructor's permission. Students who complete RUSS361 with a passing grade will satisfy the Penn Language Requirement.

399. Supervised Work. (C)

Hours and credits on an individual basis.

Advanced Courses (400 to 425) in History, Literature and Culture. Taught in

Russian.

412. Nineteenth-Century Russian Literature and Culture: Romantics and Realists. (M) Verkholantsev.

Prerequisite(s): Russian 312 or placement exam. Conducted in Russian.

This course continues developing students' advanced skills in Russian, and combines advanced study of the Russian language with an examination of the fundamental literary movements and figures of nineteenth-century Russian literature and culture. Course materials include prosaic and poetic texts by Pushkin, Gogol', Lermontov, Dostoevsky, Tolstoy, Chekhov, as well as films and art. Language work will be devoted to writing, syntactical and stylistic analysis, vocabulary, academic speech, and listening comprehension.

SM 413. Twentieth-Century Russian Literature, Film and Culture: Utopia, Revolution and Dissent. (M)

Bourlatskaya. Prerequisite(s): Russian 312 or placement exam. Conducted in Russian.

This course continues developing students' advanced skills in Russian, and introduces students to major movements and figures of twentieth-century Russian literature and culture. We will read the works of modern Russian writers, and watch and discuss feature films. The course will introduce the first Soviet films and works of the poets of the Silver Age and beginning of the Soviet era as well as the works from later periods up to the Perestroika and Glasnost periods (the late 1980s).

SM 416. Business and Democracy in the New Russia. (M) Bourlatskaya.

Prerequisite(s): RUSS 312 or placement exam. Conducted in Russian.

This course continues developing students' advanced skills in Russian, and is designed to familiarize students with contemporary Russian society, its historical background and its present political and economic structure, and to develop functional proficiency in speaking, writing, reading

and listening. The course will focus on a variety of issues central to Russian society since the fall of the Soviet Union, including changing values, political parties and movements, the business climate and businessmen, various nationalities within Russia, women in the family and at work. Course materials will include interviews, articles, essays by leading Russian journalists and statesmen, and contemporary Russian movies.

417. Russian Modernism: Literature, Music & Visual Arts. (J) Staff.

Prerequisite(s): RUSS312 or placement exam. Conducted in Russian.

This course continues developing students' advanced skills in Russian, while closely studying a representative selection of texts from the modernist period. The course will explore central issues of the period, such as the relationship between literature and revolution, reconceptualizations of society, history and the self. Of particular interest will be authors' experimentation in form and language in order to present afresh the experience of life. Textual study is combined with a general overview of the period, including reference to parallel trends in the visual arts, architecture and music, as well as contemporary intellectual movements. Principal writers studied will include Belyi, Sologub, Remizov, Andreev, Artsybashev, Gorky, Zamiatin, Pilnyak, Platonov, Zoshchenko, Babel, Olesha, and Kharms.

418. Russian Culture and Society Now. (L) Staff. Prerequisite(s): Russian

312 or placement exam. Conducted in Russian.

This course continues developing students' advanced skills in Russian, while surveying main social, political and cultural developments in Russia since 1991. In these two turbulent decades Russia has undergone colossal changes ranging from disintegration of the Soviet Empire to the rapid development of new gastronomical tastes and new trends in literature and culture. The course will explore diverse and often conflicting cultural sensibilities in contemporary Russian fiction, poetry, journalism, scholarly writing, performance art, as well as in pop-culture and film. Topics under consideration will include reassessing Russia's luminous cultural heritage as well as traumatic periods in Soviet history; search for identity and the recent drift towards neo-nationalism; gender issues and the contemporary focus on fatherlessness; changing attitudes towards former cultural taboos; dealing with Russia's current political and cultural dilemmas. The course also incorporates

two advanced Russian colloquiums with guest appearances of Prof. Kevin Platt and Ilya Vinitsky.

SM 419. Russian Song and Folklore.

(M) Verkholantsev. Prerequisite(s): Russian 312 or placement exam. Conducted in Russian.

This course continues developing students' advanced skills in Russian. Song and, in particular, folk song is an essential and exciting component of Russian culture and social life, and an important language learning tool. The course offers a general introduction to the history of Russian folklore, song and musical culture. Students will explore the historical trajectory of Russian song and its various genres (from folk to the modern Estrada), examine the poetic and literary principles of song, discuss its aesthetic properties, and analyze the educational, community-building and ideological roles of song in Russian society.

420. Contemporary Russia Through Film. (C) Bourlatskaya. Prerequisite(s):

Russian 312 or placement exam. Conducted in Russian.

This course continues developing students' advanced skills in Russian and offers intensive study of Russian film, arguably the most powerful medium for reflecting changes in modern society. This course will examine Russia's transition to democracy and market economy through the eyes of its most creative and controversial cinematographers. The course will focus on the often agonizing process of changing values and attitudes as the country moves from Soviet to Post-Soviet society. Russian films with English subtitles will be supplemented by readings from contemporary Russian media sources. The course provides an excellent visual introduction to the problems of contemporary Russia society.

Advanced Courses Taught in English (426 - 449)

SM 426. (CIMS365) Chekhov: Stage & Screen. (M) Zubarev. Forms a part of the LPS Masters in Liberal Arts Program.

Whats so funny, Mr. Chekhov? This question is often asked by critics and directors who still are puzzled with Chekhovs definition of his four major plays as comedies. Traditionally, all of them are staged and directed as dramas, melodramas, or tragedies. Should we cry or should we laugh at Chekhovian characters who commit suicide, or are killed, or simply cannot move to a better place of living? Is the laughable synonymous to comedy and

the comic? Should any fatal outcome be considered tragic? All these and other questions will be discussed during the course. The course is intended to provide the participants with a concept of dramatic genre that will assist them in approaching Chekhovs plays as comedies. In addition to reading Chekhovs works, Russian and western productions and film adaptations of Chekhovs works will be screened. Among them are, Vanya on 42nd Street with Andre Gregory, and Four Funny Families. Those who are interested will be welcome to perform and/or direct excerpts from Chekhovs works.

SM 430. (CIMS430, EUR430) Nationalism and Ethnic Conflict in Film. (M) Todorov. Forms a part of the LPS Masters in Liberal Arts Program.

This course studies the cinematic representation of civil wars, ethnic conflicts, nationalistic doctrines, and genocidal policies. The focus is on the violent developments that took place in Russia and on the Balkans after the collapse of the Soviet Bloc and were conditioned by the new geopolitical dynamics that the fall of communism had already created. We study media broadcasts, documentaries, feature films representing the Eastern, as well as the Western perspective. The films include masterpieces such as "Time of the Gypsies", "Underground", "Prisoner of the Mountains", "Before the Rain", "Behind Enemy Lines", and others.

SM 432. (CIMS432, COML196) Fate and Chance in Literature and Culture. (M) Zubarev. Forms a part of the LPS Masters in Liberal Arts Program.

In Fate and Chance in Literature and Culture, we will explore these two interrelated concepts in comparative perspective over a broad historical range. As a result, the students will learn how the philosophy of fate and chance has been reflected in works of different Russian authors and in different cultural and political environments. In Russian as well as western systems of belief fate and chance represent two extreme visions of the universal order, or, perhaps, two diametrically opposed cosmic forces: complete determinism, on the one hand, and complete chaos or unpredictability, on the other. These visions have been greatly reflected by various mythopoeic systems. In this course, we will investigate religious and folkloric sources from a series of Russian traditions compared to other Indo-European traditions (Greek, East-European). Readings will include The Song of Prince Igor's Campaign, The

Gambler by Dostoevsky, The Queen of Spades by Pushkin, Vij by Gogol, The Black Monk by Chekhov, The Fatal Eggs by Bulgakov, and more.

434. Media and Terrorism. (M)

Todorov. Forms a part of the LPS Masters in Liberal Arts Program.

This course draws on fictional, cinematic and mass-media representation of terrorism based on Russian as well as Western examples. We study how the magnitude of the political impact of terrorism relates to the historically changing means of production of its striking iconology. The course exposes students to major modes of imagining, narrating, showing, reenacting terrorism and forging its mystique. We examine the emergence of organized terrorism in nineteenth-century Russia as an original political-cultural phenomenon. We trace its rapid expansion and influence on the public life in the West, and on the Balkans.

Historical, political, and aesthetic approaches converge in a discussion of several case studies related to intellectual and spiritual movements such as nihilism, anarchism, populism, religious fundamentalism, and others. The public appearance of the terrorist activism and its major attributes are viewed as powerful intensifiers of its political effect: self-denial, ascetic aura, and stratagem of mystification, underground mentality, and martyrdom. The pedagogical goal of this course is to promote and cultivate critical view and analytical skills that will enable students to deal with different historical as well as cultural modes of (self-)representation of terrorism. Students are expected to learn and be able to deal with a large body of historical-factual and creative-interpreted information.

Courses in Literature, Culture, and History for Russian Speakers (450 - 499)

460. Post-Soviet Russia in Film. (C)

Bourlatskaya. Prerequisite(s): RUSS361 or comparable language competence. Conducted in Russian.

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. Film is arguably the most powerful medium for reflecting changes in modern society. This course will examine Russia's transition to democracy and market economy through the eyes of its most creative and controversial cinematographers. The course will focus on the often agonizing process of changing values and attitudes as

the country moves from Soviet to Post-Soviet society. Russian films with English subtitles will be supplemented by readings from contemporary Russian media sources. The course provides an excellent visual introduction to the problems of contemporary Russia society.

SM 461. 20th Century Russian Literature: Fiction and Reality. (M)

Bourlatskaya. Prerequisite(s): RUSS361 or comparable language competence. Conducted in Russian.

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. Russian 461 introduces the major movements and figures of twentieth-century Russian literature and culture, works of modern Russian writers, and feature films. In studying the poetry of Mayakovsky, Blok, and Pasternak, students will become familiar with the important literary movements of the Silver Age. The reality of the Soviet era will be examined in the works of Zamyatin, Babel, and Zoshchenko. There will be a brief survey of the development of Soviet cinema, including films of Eisenstein, Tarkovsky, and Mikhalkov. Literary trends in the later Soviet period will be seen in war stories, prison-camp literature, village prose, and the writings of female authors of that time.

SM 464. Russian Humor. (M) Staff.

Prerequisite(s): RUSS361 or comparable language competence. Conducted in Russian.

One of the most fascinating and most difficult things for a student of foreign culture is to understand national humor, as it is presented in various stories and films, jokes and shows. To an extent, humor is a gateway to national mentality. In the present course we will examine Russian cultural history, from the sixteenth through the twenty-first centuries, through the vehicle of Russian humor. How does Russian humor depend on religion and history? What was considered funny in various cultural trends? What are the peculiarities of Russian humorist tradition? Students will be familiarized with different Russian theories of humor (Bakhtin, Likhachev, Panchenko, Tynianov, etc.) and, of course, with a variety of works by Russian kings of humor Pushkin and Gogol, Chekhov and Zoshchenko, Bulgakov and Ilf and Petrov, Erofeev and Kibirov, etc. Class lectures will be supplemented by frequent video and musical presentations ranging from contemporary cartoons to high comedies

and from comic songs (Chaliapins The Flea) to the music of Shostakovich (The Nose).

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language.

465. Singing in the Snow: The History of Russian Song. (M)

Verkholantsev. Prerequisite(s): RUSS361 or comparable language competence. Conducted in Russian.

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. Song is an essential and exciting component of Russian culture and social life, and an important language learning tool. The course offers a general introduction to the history of Russian song. Students will explore the historical trajectory of Russian song and its various genres (from folk to the modern Estrada), examine the poetic and literary principles of song, discuss its aesthetic properties, and analyze the educational, community-building and ideological roles of song in Russian society. Among the wide-ranging topics and genres that we will discuss and work with are lyrics of folk songs, romances, Soviet and patriotic songs, Anti-Soviet songs, Russian/Soviet anthems, bard song, film and theater songs, childrens songs, Soviet and Russian Rock and Pop.

467. Classic Russian Literature Today. (M) Staff.

Prerequisite(s): RUSS361 or comparable language competence. Conducted in Russian.

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. A study of classic Russian literature in the original. Readings will consist of some of the greatest works of 19th and 20th-century authors, such as Pushkin, Gogol, Tolstoy, Dostoevsky, and Bulgakov. Students will examine various forms and genres of literature, learn basic techniques of literary criticism, and explore the way literature is translated into film and other media. An additional focus of the course will be on examining the uses and interpretations of classic literature and elitist culture in contemporary Russian society. Observing the interplay of the "high" and "low" in Russian cultural tradition, students will develop methodology of cultural analysis.

468. Post-Soviet Russian Society: People, Business, Democracy. (M)

Bourlatskaya. Prerequisite(s): RUSS361 or comparable language competence. Conducted in Russian.

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. It offers an introduction to contemporary Russian society, its historical background and its present political and economic structure. The course will focus on the political, economic and sociological developments in Russia from Perestroika (late 1980s) to Putin. The course will discuss the society's changing values, older and younger generations, political parties and movements, elections, the business community and its relations with the government, common perceptions of Westerners and Western society, and the role of women in the family and at work. Emphasis will be placed on the examination, interpretation and explanation of peoples behavior and their perception of democracy and reforms, facilitating comparison of Western and Russian social experience.

SM 469. Russian Utopia in Literature, Film, and Politics. (M) Staff.

Prerequisite(s): RUSS361 or comparable language competence. Conducted in Russian.

This course is intended for students who have spoken Russian at home and seek to improve their capabilities in formal and professional uses of the Russian language. In this course we will undertake a fascinating journey to the Dreamland of Russian culture. Students will read and discuss Russian utopian imagination as presented in a variety of literary texts, paintings, musical works, films, as well as philosophical texts and economic theories. Topics for discussion will include Russian fairy tales and legends, religious prophecies and communist projects, history and imagination, technological and patriarchal utopias.

SM 485. (COLL224) Russian Poetics. (A) Steiner.

Prerequisite(s): RUSS312, RUSS361 or comparable language competence. This course is open to all advanced students of Russian (including students who speak Russian at home).

Introduction to the analysis of poetic texts, based on the works of Batyushkov, Lermontov, Tyutchev, Fet, Mandelshtam, and others.

*Graduate Courses***SM 506. Pushkin. (B)** Steiner.

Prerequisite(s): RUSS312, RUSS361 or comparable language competence. This course is open to all students of Russian (including students who speak Russian at home).

The writer's lyrics, narrative poems, and drama.

SM 508. Advanced Russian for Business. (M) Bourlatskaya.

Prerequisite(s): At least one RUSS400-level course or comparable language competence.

This advanced language course focuses on developing effective oral and written communication skills for working in a Russian-speaking business environment. Students will discuss major aspects of Russian business today and learn about various Russian companies using material from the current Russian business press. In addition, students will be engaged in a number of creative projects, such as business negotiation simulations, and simulation of creating a company in Russia.

SM 544. (COML541, RUSS444) Haunted House: Russian Realism in European Context. (M) Staff.

In this class we will examine works of major Russian Realist writers, painters, and composers considering them within Western ideological contexts of the 1850-1880s: positivism, materialism, behaviorism, spiritualism, etc. We will focus on Russian Realists ideological and aesthetic struggle against Romantic values and on an unpredicted result of this struggle -- a final spectralization of social and political realities they claimed to mirror in their works. Paradoxically, Russian Realism contributed to the creation of the image of Russia as a house haunted by numerous apparitions: nihilism and revolution, afflicted peasants and perfidious Jews, secret societies and religious sects. The spectropoetics (Derrida) of Russian Realism will be examined through works of Dostoevsky, Tolstoy, Turgenev, Leskov, Chekhov, as well as paintings by Ilya Repin and operas by Mussorgsky and Tchaikovsky. Requirements include one oral presentation, mid-term theoretical survey essay, and a final paper. Relevant theories include M.H. Abrams, Brookes, Levine, Greenblatt, Castle, and Derrida.

SLAVIC (SLAV)**100. (HIST231, RUSS103) Slavic Civilization. (I)** History & Tradition Sector. All classes. Verkholtantsev.

This introductory course examines selected topics in the cultural and political history of Slavic peoples. Topics include: the origins and pre-history of the Slavs, Slavic languages and literary culture, religions of the Slavs (Orthodoxy, Catholicism, Protestantism, Islam), the origins of Slavic nationalism and Pan-Slavism and the formation of Eastern/Central Europe. The course combines lectures with discussions of literary texts in translation, film, music and art.

109. Central European Culture and Civilization. (M) Steiner. This is Penn-in-Prague course.

This course is normally offered through Penn-in-Prague during summer. The reappearance of the concept of Central Europe is one of the most fascinating results of the collapse of the Soviet empire. The course will provide an introduction into the study of this region based on the commonalities and differences between Austria, Czechoslovakia, Hungary, Poland and Germany. The topics will include the history of arts and literature, as well as broader cultural and historical patterns characteristic of this part of Europe.

399. Independent Study. (C) May be repeated for credit.**SM 500. (CLST511, COML501, ENGL571, GRMN534, ROML512) History of Literary Theory. (M)** Copeland/Platt.

Over the last three decades, the fields of literary and cultural studies have been reconfigured by a variety of theoretical and methodological developments. Bracing and often confrontational dialogues between theoretical and political positions as varied as Deconstruction, New Historicism, Cultural Materialism, Feminism, Queer Theory, Minority Discourse Theory, Colonial and Post-colonial Studies and Cultural Studies have, in particular, altered disciplinary agendas and intellectual priorities for students embarking on the /professional /study of literature. In this course, we will study key texts, statements and debates that define these issues, and will work towards a broad knowledge of the complex rewriting of the project of literary studies in process today. The reading list will keep in mind the Examination List in Comparative Literature we will not work towards complete coverage but will ask how crucial

contemporary theorists engage with the longer history and institutional practices of literary criticism.

There will be no examinations. Students will make one class presentation, which will then be reworked into a paper (1200-1500 words) to be submitted one week after the presentation. A second paper will be an annotated bibliography on a theoretical issue or issues that a student wishes to explore further. The bibliography will be developed in consultation with the instructor; it will typically include three or four books and six to eight articles or their equivalent. The annotated bibliography will be prefaced by a five or six page introduction; the whole will add up to between 5000 and 6000 words of prose. Students will prepare position notes each week, which will either be posted on a weblog or circulated in class.

SM 526. (COML526, ENGL705, HIST526) In Defiance of Babel: the Quest for a Universal Language. (M) Verkholtantsev.

This is a course in intellectual history. It explores the historical trajectory, from antiquity to the present day, of the idea that there once was, and again could be, a universal and perfect language to explain and communicate the essence of human experience. The idea that the language spoken in the Garden of Eden was a language which perfectly expressed the essence of all possible objects and concepts has occupied the minds of scholars for more than two millennia. In defiance of the myth of the Tower of Babel and the confusion of languages, they strived to overcome divine punishment and discover the path back to harmonious existence.

For philosophers, the possibility of recovering or recreating a universal language would enable apprehension of the laws of nature. For theologians, it would allow direct experience of the divinity. For mystic-cabalists it would offer access to hidden knowledge. For nineteenth-century philologists the reconstruction of the proto-language would enable a better understanding of human history. For contemporary scholars, linguistic universals provide structural models both for human and artificial languages. For writers and poets of all times, from Cyrano de Bergerac to Velimir Khlebnikov, the idea of a universal and perfect language has been an inexhaustible source of inspiration. Above all, the course examines fundamental questions of what language is and how it functions. Among the course readings are works by Plato, Aristotle, St. Augustine, Dante, Horapollo, Bacon, Giordano Bruno,

John Wilkins, Cyrano de Bergerac, Jonathan Swift, and Zamenhof.

SM 610. Topics in Second Language Acquisition. (M) Shardakova.

SM 620. Europe: From Idea to Union. (M) Steiner.

Employing the methods from the humanities and social sciences this interdisciplinary seminar will explore the variety of factors that contributed to dividing and uniting Europe. The continent will be considered as a geographical and cultural space and the construction of its identity will be examined through several historical periods--from the Middle Ages to Modernism--comprising the rich layer of pan-European civilization across the ethnic or national borders.

Finally, the structure of the European Union will be scrutinized including its institutions, decision-making mechanism, shared currency, collective security, and Europe's changing relationship with the USA. Participants will be encouraged to select a particular topic in European studies and research it through assigned readings, film, literature, and other media. The individual projects will be developed through consultations with the instructor into a class presentation leading to a final paper (about 6,000 words).

SM 623. (HIST620) Historiography of Imperial and Soviet Russia. (A) Platt.

Prerequisite(s): At least advanced reading knowledge of Russian. Seminar discussion will be conducted in English, but a fair amount of reading will be assigned in Russian.

We will cover the development of Russian historical research and writing from the start of the eighteenth century to the present, focusing on major texts, schools and figures. Alongside this traditional historiographical architecture, segments of the course will be devoted as well to a variety of theoretical models and approaches to research, including: institutional history, cultural history, poetics of history, philosophy of history, "invention of tradition," trauma studies, and others.

SM 651. (COML650) Theories of Representation. (M) Steiner.

The course will examine major Western theories of sign and representation from Socrates to Derrida. Primary focus will be on twentieth-century trends including phenomenology, structuralism, and Marxism. Readings will include: Plato, St. Augustine, Pierce, Husserl, Jakobson,

Bakhtin, Voloshinov, Eco, Derrida and others.

SM 655. (COML654, HIST656) History, Memory, Trauma. (M) Platt. All readings and lectures in English.

This course will be devoted to study of the theory and practice of representation of the past in major European traditions during the modern era, with special emphasis on three topics of broad concern: revolution, genocide, and national becoming. The object of inquiry will be construed broadly, to include all manner of historiographic, artistic, filmic, literary and rhetorical representation of the past. Each of the three segments of the course will begin with examination of important theoretical readings in conjunction with case studies in major European traditions that have been among the central foci of this theoretical work (French Revolutionary history, Holocaust, English nationalism). Next we will add analogous Russian cases to the picture (Russian Revolution, Gulag memory, Ivan the Terrible and Peter the Great as national myths). Finally, at the conclusion of each segment students will bring theoretical tools to bear on the national traditions and contexts relevant to their own work. Our readings in the theory and philosophy of history and historiography will include works by: Anderson, Caruth, Guha, Hegel, LaCapra, Putnam, Ricoeur, White and others.

SM 657. (COML657) Formalism, Bakhtin et al. (M) Steiner.

This course deals in depth with the three seminal literary-theoretical trends in Slavic philology during the inter war and the early post-war periods. It starts with Russian Formalism, a school striving to pin down what differentiates literary discourse from all other forms of language and continues with the Prague Structuralism that redefined the tenets of Formalisms from a semiotic perspective. Finally, the Bakhtin circle's key concepts meta-linguistics, dialogue and carnivals are discussed. All readings are in English.

999. Independent Study. (C)

POLISH

SM 392. (AFRC392, ARTH389, CIMS392, COML391, ENGL392) Topics in Film Studies. (M)

501. Elementary Polish I. (D) Moscala. Prerequisite(s): No prerequisite. Offered through the Penn Language Center.

This course is for students who want to acquire the linguistic skills necessary for

communication in everyday situations and that would constitute a solid base for further study of the Polish language. In addition students will become acquainted with various aspects of Polish culture (including Polish films), history and contemporary affairs. Students will learn through classroom exercises based on a modern textbook, completion of individual and group assignments and work with various audio and video materials. The textbook Hurra - Po Polsku 1 is written in the spirit of the communicative approach, which makes it possible to communicate from the very beginning of the learning process. The special attention, however, will be paid on systematic development of all language skills: listening, reading, speaking and writing.

502. Elementary Polish II. (D) Wolski-Moskoff. Prerequisite(s): SLAV 501 or Instructor's permission. Offered through the Penn Language Center.

This course is a continuation of the SLAV501 680. This is for students who want to acquire the linguistic skills necessary for communication in everyday situations and that would constitute a solid base for further study of the Polish language. In addition students will become acquainted with various aspects of Polish culture (including Polish films), history and contemporary affairs. Students will learn through classroom exercises based on a modern textbook, completion of individual and group assignments and work with various audio and video materials. The textbook Hurra - Po Polsku 1 is written in the spirit of the communicative approach, which makes it possible to communicate from the very beginning of the learning process. The special attention, however, will be paid on systematic development of all language skills: listening, reading, speaking and writing.

503. Intermediate Polish I. (D) Wolski-Moskoff. Prerequisite(s): SLAV 502 or placement exam. Offered through the Penn Language Center.

This is a first-semester intermediate -level language course that emphasizes the development of the four basic skills (reading, writing, listening, and speaking) within a culturally based context. Class time will focus on communicative activities that combine grammatical concepts, relevant vocabulary, and cultural themes. Students will learn through classroom exercises based on a modern textbook: Hurra Po Polsku 2, completion of individual and group assignments and work with various audio and video materials. Major course goals include: the acquisition

of intermediate-level vocabulary, the controlled use of the Polish cases; the aspect of the verbs, the development of writing skills.

504. Intermediate Polish II. (D) Wolski-Moskoff. Prerequisite(s): SLAV 503 or placement. Offered through the Penn Language Center.

This course is a continuation of the SLAV503 680. This is a second-semester intermediate -level language course that emphasizes the development of the four basic skills (reading, writing, listening, and speaking) within a culturally based context. Class time will focus on communicative activities that combine grammatical concepts, relevant vocabulary, and cultural themes. Students will learn through classroom exercises based on a modern textbook: Hurra Po Polsku 2, completion of individual and group assignments and work with various audio and video materials. Major course goals include: the acquisition of intermediate-level vocabulary, the controlled use of the Polish cases; the aspect of the verbs, the development of writing skills.

505. Polish for heritage speakers I. (M) Wolski-Moskoff. Prerequisite(s): Instructor permission required. STUDENTS WHO COMPLETE TWO SEMESTERS OF THIS COURSE SATISFY THE PENN LANGUAGE REQUIREMENT. Polish is used exclusively in the classroom.

The course is addressed to students who have spoken Polish at home and seek to achieve proficiency in the language. The main goal of this course is to provide instruction directed at students continued development of existing competencies in the Polish language. Students will acquire skills that range from learning grammar and spelling, and developing vocabulary, to interpretation and analysis of different literary genres. Students will explore a broad variety of cultural themes. Topics will include: Polish literature - classic and modern, social life, contemporary affairs and films.

Upon completion of the Polish for Heritage Speakers course, students are expected to confidently understand, read, write and speak Polish with an increased vocabulary and a better command of Polish grammar. They will increase their reading skills through interpretation and analysis of different Polish literary genres. Students will be able to organize their thoughts and write in a coherent manner. They will increase their writing skills by writing personal essays, compositions and others. Students will further their knowledge of the

Polish language and will engage in class discussion on various topics. Students will gain a better understanding of the Polish culture.

506. Polish for Heritage Speakers II. (M) Wolski-Moskoff. Prerequisite(s): SLAV505 or placement test. Continuation of SLAV505

EAST EUROPEAN (EEUR)

121. Elementary Hungarian I. (D) Mizsei. Offered through Penn Language Center.

An introduction to the fundamentals of the Hungarian language, acquisition of conversational, readings and writing skills.

122. Elementary Hungarian II. (D) Mizsei. Prerequisite(s): EEUR 121 or placement. Offered through Penn Language Center. Continuation of EEUR 121

123. Intermediate Hungarian I. (D) Mizsei. Prerequisite(s): EEUR 121-122 or placement. Offered through the Penn Language Center.

Emphasis on vocabulary building, conversation and reading skills. Grammar review.

124. Intermediate Hungarian II. (D) Mizsei. Prerequisite(s): EEUR 121-123 or placement. Offered through Penn Language Center. Continuation of EEUR123.

125. Advanced Hungarian I. (M) Staff. Offered through the Penn Language Center. The basic aim is to enable students, independently or under the guidance of the teacher, to communicate in Hungarian and express their thoughts (orally or in writing) at an advanced level.

126. Advanced Hungarian II. (M) Staff. Offered through the Penn Language Center. A continuation of Advanced Hungarian I

199. Independent Study. (C)

CZECH (SLAV)

530. Elementary Czech I. (D) Stejskal. Offered through the Penn Language Center. An introduction to the fundamentals of the Czech language, acquisition of conversational, reading and writing skills.

531. Elementary Czech II. (D) Stejskal. Prerequisite(s): SLAV 530 or Placement. Offered through the Penn Language Center. Continuation of SLAV 530

532. Intermediate Czech I. (D) Stejskal. Prerequisite(s): SLAV 531 or Placement. Offered through the Penn Language Center. Emphasis on vocabulary building, conversation and reading skills. Grammar review.

533. Intermediate Czech II. (D) Stejskal. Prerequisite(s): SLAV 532 or Placement. Offered through the Penn Language Center. Continuation of SLAV 532

534. Advanced Czech I. (D) Stejskal. Prerequisite(s): Two years of Czech or placement. Offered through the Penn Language Center. Emphasis on advanced vocabulary building, conversation and reading skills. Advanced grammar review.

535. Advanced Czech II. (D) Stejskal. Prerequisite(s): SLAV 534 or placement. Offered Through the Penn Language Center. Continuation of SLAV 534

UKRAINIAN (SLAV)

590. Elementary Ukrainian I. (D) Rudnytzky. Offered through the Penn Language Center.

An introduction to the fundamentals of the Ukrainian language, acquisition of conversational, reading and writing skills.

591. Elementary Ukrainian II. (D) Rudnytzky. Prerequisite(s): SLAV 590 or Placement. Offered through the Penn Language Center. Continuation of SLAV 590

592. Intermediate Ukrainian I. (D) Rudnytzky. Prerequisite(s): SLAV 591 or placement test. Offered through the Penn Language Center.

Emphasis on vocabulary building, conversation and reading skills. Grammar review.

593. Intermediate Ukrainian II. (D) Rudnytzky. Prerequisite(s): SLAV 592 or Placement. Offered through the Penn Language Center. Continuation of SLAV 592

594. Advanced Ukrainian I. (D)

Rudnytzky. Prerequisite(s): SLAV 593 or Placement. Offered through the Penn Language Center.

Emphasis on advanced vocabulary building, conversation and reading skills. Advanced grammar review.

595. Advanced Ukrainian II. (D)

Rudnytzky. Prerequisite(s): SLAV 594 or Placement. Offered through the Penn Language Center.
Continuation of SLAV 594

SOCIAL WORK (SW) {SWRK}

Master of Social Work courses

601. History and Philosophy of Social Work and Social Welfare. (A)

This course offers a historical perspective for understanding current issues of social welfare and social work. It examines the social, racial, political, and economic forces that explain the development of social welfare and social work in the United States. Particular emphasis is placed on the role of gender and race in shaping social policy. Programs, policies, and issues are analyzed as responses to long-term changes in social and economic conditions in the United States and the needs and demands of oppressed groups for full participation in the life of the country.

602. Human Behavior in the Social Environment. (A)

This course introduces the student to the individual and family components of social interaction in a variety of different milieus. Theories of self and personality are studied, along with theories related to traditional and nontraditional family styles, different social and ethnic groups, and of assimilation and acculturation. Emphasis is given to the impact of different cultures and traditions on individual functioning. Additional attention is given to selected social characteristics of the larger society, such as factors of socio-economic class which influence individual and family behavior and functioning.

603. American Racism and Social Work Practice. (A)

This course explores racism in America as a historical and contemporary phenomenon. It emphasizes the development of evidence based knowledge about institutional systems of racism, analytical skill in understanding the complexity of institutional racism and other forms of oppression more broadly defined, self awareness, and the implications of racism for social work services and practices.

604. Foundations of Social Work Practice I. (A)

This is a first of a four course sequence designed to help students develop a professional stance and evidence-based framework for social work services to individuals, groups, families, and communities. It integrates the student's theoretical learning with the experience in the field placement agency. The student is

introduced to a holistic process-oriented approach to social work practice and to methods for implementation. The course emphasizes the social context for practice with special attention to agency purpose, functions and structure; the client system and its perceptions of need; goals and resources and the social worker as a facilitator of change.

614. Foundations of Social Work Practice II. (B) Prerequisite(s): SWRK604.

This is the second in a four course sequence and continues the examination and use of practice frameworks and methods for service delivery in working with individuals, groups, families and communities. It emphasizes the eradication of institutional racism and other forms of oppression along with the integration of a culturally sensitive approach to social work practice. Attention is given to understanding client problems in the context of different social work practice approaches and service requirements and to increased use of professional values to guide and inform practice.

SM 615. Introduction to Social Work Research. (B)

This course presents the broad range of research tools that social workers can use to improve the effectiveness and efficiency of their practice. The course emphasizes the process of theory development, conceptualization, and hypothesis formulation across a broad spectrum of social work practice situations. The course includes methodological considerations relating to concept operationalization; research design (experimental, survey, and field), sampling instrumentation, methods of data collection and analysis, and report preparation and dissemination. The course also emphasizes how social work research can help professionals better understand and more effectively impact problems of racism and sexism in contemporary American society.

SM 620. Integrative Seminar. (L) Prerequisite(s): Advanced Standing MSW students only.

701. Health and Mental Health Policy. (C) MSW Elective.

This course provides an overall view of the historical, social and economic dimensions of the health care delivery system: how health policies are developed and implemented, and how such policies influence social work practice, program planning, and research. Key health policy issues such as financing, cost, access, and

the allocation of resources are explored in the context of health reform proposals. Students investigate how health policy affects specific population groups such as women and children, persons with chronic mental illnesses, persons with AIDS, older adults, and minorities.

702. Social Work Practice in Health Care. (C) Clinical Practice Elective.

This course focuses on key issues in social work practice in health care settings. Social aspects of health and illness, including cultural variations, health beliefs and behavior, and the impact of illness on the patient and the family, are examined and their relevance for practice is discussed. Appropriate theoretical models for practice are identified and applied to practice in the areas of prevention, primary care, chronic and long-term care. New roles for social work in varied health delivery systems and inter-professional collaboration are explored.

703. Impacting Government Policy in Pennsylvania. (M) Macro Practice Elective.

This course focuses on social changes in health care as it impacts the lives of older people and their families. Using Pennsylvania as a model, we will focus on the administrative and legislative systems. Topics will include the recent controversial changes to Medicare, re-balancing of the long-term care system and efficacy of behavioral health treatment programs. Students will learn how to impact social change at the policy level by planning a social marketing campaign. They will develop materials to influence consumer understanding and behavior, such as editorial and legislative briefings. Students will have the opportunity to interact with officials, legislators, and advocates as they build the framework to support a social change agenda.

704. Advanced Clinical Social Work Practice I. (A) Required for clinical Practice Concentration.

Building on the foundation established in the foundation social work practice courses, this course introduces advanced theoretical frameworks for clinical practice from which students build conceptual practice frameworks. The course helps students choose and learn the components of a practice approach in the context of social assessment, agency auspices, and the student's developing theoretical framework.

706. Policies for Children and Their Families. (C) Policy Option.

This course examines policies for children and their families with a specific focus on child welfare policy. The course examines the interrelationship between: the knowledge base on child abuse and neglect; evaluations of interventions; programs and policies designed to protect maltreated children; and child welfare policy at the state and national level. The course also examines federal and state laws that govern the funding and operation of child welfare systems; the history of child welfare policies; the operation of child welfare systems; and the legal, political and social forces that influence the structure and function of child welfare systems in the United States.

708. Advanced Macro Social Work Practice I. (A) Required for Macro Practice Concentration.

Advanced Macro Social Work practice builds on the foundation social work practice courses and is composed of three interrelated disciplines: community organization, planning, and administration. In Macro Practice courses, the student develops knowledge and skills for practice in communities, organizations, and/or other social systems. This course, the first of two Macro Practice courses, begins by developing a theoretical framework for macro practice. Knowledge and skill development focuses primarily on social work practice within communities and on the planning of service delivery at the community level. Students learn how to identify community-based social problems, organize and build relationships with communities, and develop programs. Specific skill development includes learning how to conduct needs assessments, staff committees, run meetings, and write grants. The content is integrated with fieldwork and is specific to the service needs of the populations with whom students are working in their field agencies.

709. Heterosexism and Social Work. (C) MSW Elective.

This course builds on the foundation year focus on institutional oppression by applying this model to the status of lesbian, gay, bisexual, and transgender people in U.S. society and in social welfare systems. The course assesses the relationship of heterosexism and homophobia to other forms of institutional oppression, including racism and sexism. The course includes an overview of the treatment of sexual minorities in the U.S. and in the social work profession with a focus on issues related to lesbian, gay, bisexual, and

transgender clients as an under-served and mis-served population. The intersection of racism and heterosexism is a focal point to explore the concerns and needs of LGBTQ people of color. Current theoretical frameworks for understanding sexual identity and the unique situations of lesbian, gay, bisexual, transgender and questioning people throughout the life cycle will be identified. Social work strategies for addressing heterosexism in social welfare agencies and communities will be explored by examining both micro and macro social work practice issues. The course will include a critical assessment of the state of social work education on the topic.

SM 712. (URBS454) City Limits: The Impact of Urban Policy. (B)

Prerequisite(s): Students must have taken an introduction to research methods. MSW elective.

This course assesses the changing role of public policy in American cities. In the past, government often believed that it could direct urban development. New realities - the rise of an informal labor market, global capital and labor flows, the flight of businesses and the middle class to the suburbs - have demonstrated that government must see itself as one - but only one - 'player' in a more complex, transactional process of policy making that crosses political boundaries and involves business, organized interest groups, and citizens.

This seminar uses a case-study method to study how public policy can make a difference in the revitalization of distressed American cities. The seminar is designed for advanced undergraduates and graduate students. Seminar readings and projects will be organized around three themes: 1) history and vision, 2) data and analysis, and 3) policy and implementation. Students will be divided into project teams assigned to work on current development issues that will be reviewed by both public and private-sector experts. Extensive use will be made of real estate, economic development, and social indicator data to understand the complex forces at work in both large and small cities. Students will learn to access, analyze, and map information; to frame and interpret these data within a regional perspective; and to construct profiles of cities and neighborhoods. Students will study recent urban redevelopment initiatives in the Philadelphia region, including Philadelphia's Neighborhood Transformations Initiative and New Jersey's Camden Revitalization plans.

713. Understanding Social Change: Issues of Race and Gender. (B)

Prerequisite(s): SWRK 603.

This course builds upon the foundation of historical, psychological, sociological, economic, political, and personal knowledge about institutionalized forms of racism and discrimination developed in SWRK 603, American Racism and Social Work Practice. The course uses understanding elements of oppression to critically examine strategies for addressing racism and sexism in organizations and communities through systematic assessment and planning for social change. The course examines change at three levels: organizations, communities, and social movements.

714. Advanced Clinical Social Work Practice II. (B) Prerequisite(s): SWRK704. Required for Clinical Practice Concentration.

The focus of learning in this semester is differential intervention and the expansion of the professional role and repertoire. Students extend and refine their practice knowledge and skills and learn to intervene with group systems and selected problems. Students consolidate their identification as professionals and learn to constructively use environment to affect systems change.

715. Introduction to Social Work Research. (A) Required Course.

This course presents the broad range of research tools that social workers can use to improve the effectiveness and efficiency of their practice. The course emphasizes the process of theory development, conceptualization, and hypothesis formulation across a broad spectrum of social work practice situations. The course includes methodological considerations relating to concept operationalization; research design (experimental, survey, and field), sampling instrumentation, methods of data collection and analysis, and report preparation and dissemination. The course also emphasizes how social work research can help professionals better understand and more effectively impact problems of racism and sexism in contemporary American society.

718. Advanced Macro Social Work Practice II. (B) Prerequisite(s): SWRK708. Required for Macro Practice Concentration.

This course, the second of two Macro Practice courses, helps students develop the knowledge and skills required to become an effective and creative social work manager. Management and behavioral science theories and concepts, as well as techniques

and methods, are introduced. Students also learn how to strategically plan programs at the organizational level and explore how public policy influences service delivery. Students learn to utilize administrative skills to promote social change within a variety of systems that influence the lives of client populations. Students have the opportunity to apply this administrative content to their field agency.

719. Prenatal and Early Childhood Development. (M) MSW Elective.

This course presents a coherent portrait of the development that transforms a person from the prenatal period to infancy to young childhood. The course bridges standard theories of development with new approaches such as social learning, cognitive development, developmental psychobiology, and other psychological theories used to understand the child. Integration of different perspectives on development is geared to demonstrate the interrelated nature of growth in cognition, learning, language, emotions, personality, physical growth and social behaviors. Students research areas of individual interest. MSW Elective

720. Middle Childhood and Adolescence. (M) MSW Elective.

This course focuses initially on growth and behavior in the often overshadowed period of middle childhood, and in greater depth on the adolescent period. Change in the psychological, physical, cognitive and social domains of growth is examined and is related to changing relationships and overt behaviors. The influence of social factors is a continuing theme. Concepts like "adolescent rebellion" are questioned and re-evaluated. Connections between uneven development and social problem behavior are examined. Knowledge is salient to school social work as well as to other practice domains. Students research areas of individual interest. MSW elective

722. Practice with Children and Adolescence. (C) Clinical Practice Elective.

This course provides a foundation for social work practice with children and adolescents. Beginning with an overview of normative child and adolescent development and psychosocial developmental theory, the course covers various methods for helping at-risk children and adolescents and their families. Emphasizing the complex interplay between children and adolescents and their social environments, consideration will be given to biological, temperamental, and developmental status; the familial/cultural

context; the school context; and other aspects of the physical and social environment. Particular attention is paid to working with socially, emotionally, financially, and physically challenged and deprived children and adolescents and their families. Clinical Practice Elective.

724. Developmental Disabilities. (C)

Clinical Practice Elective; required for students in the HSV program.

This course enhances the students' ability to practice social work with and on behalf of people with developmental disabilities and their families. The course provides a base of knowledge about developmental disabilities and differences, their causes and characteristics. Students learn how disabilities and learning differences impact personal, familial, educational, social, and economic dimensions for the individual, family and society, with attention to the person's special life cycle needs and characteristics. The course also emphasizes legislative, programmatic, political, economic, and theoretical formulations fundamental to service delivery. Clinical Practice Elective

726. Brief Treatment and Crisis Intervention. (C) Clinical Practice Elective.

This course focuses on theory and practice of planned brief treatment in social work practice, primarily with individuals but with attention to couples, families and other groupings. The course covers the history of and different approaches to brief treatment. Topics include treatment issues such as criteria for selection of clients, understanding the importance of time in the treatment relationship, the use of history, the importance of focusing, the process of termination and other issues related to brief interventions. Particular attention will be paid to the use of brief treatment approaches in crisis situations. The course presents various methods of assessing an individual's crisis and of helping clients mobilize their strengths to utilize customary methods of coping and learn newer ways of coping. Clinical Practice Elective

727. Practice with Families. (C)

Clinical Practice Elective.

This course provides students with assessment and intervention skills for social work practice with varied family/partner configurations. The course begins with a grounding in family systems theory and proceeds to explore patterns of interaction in terms of the wide range of problems that families and partners bring to social agencies. Emphasis is given to exploring

ways of supporting change in interaction patterns. Readings are augmented by videotapes of family sessions and simulations of clinical situations from students' field practice. Clinical Practice Elective

729. Social Statistics. (C) Research Option.

This course provides students with a broad range of statistical methods and applications. It introduces social work students to the use of quantitative data for planning and evaluating social programs and social policy. Course topics include conceptualization and measurement of variables and basic techniques and concepts for exploring and categorizing data, for generalizing research findings and testing hypotheses, and for statistical data processing. Students will gain experience in using a Windows-based statistical software package on personal computers. Emphasis is placed on the practical application of data to address social policy and social work practice issues. Students have the opportunity to critique the application of data analysis and presentation in technical reports and professional journals. Research Option

730. Community Mapping. (B) Macro Practice Elective.

Geographic space is important to family and community well-being, as we know. Community Mapping introduces students to geographic information systems (GIS), computer software for making maps and analyzing spatial data. Students will learn how maps have been used in social welfare history as well as how GIS can be used for needs assessments, asset mapping, program evaluation, and program planning. The course builds on research skills developed in SW 715. For the final project, students have an opportunity to apply their GIS skills to creating maps related to their field placement. The use of such maps may lead to both program and policy change in neighborhoods and communities. Macro Practice Elective

SM 731. Clinical and Macro Child Welfare Practice. (A) Garcia/Greenson.

Prerequisite(s): Acceptance to the Child Well-Being and Child Welfare Specialization. Clinical and Macro Practice Elective.

Students enrolled in this course will learn about the various contexts in which child welfare practice and policy services take place and the skills and modalities that are used with children, youth, and families who are the focus of child welfare intervention. Students learn about the social conditions

and unmet needs that have typically precipitated child welfare policy and ideological debates informing child welfare policy. How to structure organizations and implement planning in support of strengthening front-line practice is also addressed. Taking stock of these policies and organizational factors, students gain a firm understanding of how they influence, shape, and govern direct clinical practice in child protection and casework. Particular attention will be devoted to developing students' practice skills in safety assessment and safety planning, risk assessment, and permanency planning. Implementation of evidence-based, trauma-informed interventions to promote positive developmental outcomes among the racially/ethnically diverse pool of children and adolescents placed in out-of-home care will also be a focus of attention. Other topics include separation, loss, and identity development; disproportionality and disparity; and self-care in child welfare practice.

In the spirit of bridging connections between macro and clinical practice, course content will delve into how direct casework services influence dependency actions in the juvenile courts. How these direct practices or interventions influence case outcomes as reported by a number of federal data reporting systems will also be discussed. A social justice framework will be applied to understand how child welfare policies and organizational services sustain child and family inequalities, especially for historically oppressed and marginalized populations who are disproportionately represented in the child welfare system.

SM 732. Integrative Seminar in Child Welfare. (B) Garcia/Greenson.

Prerequisite(s): Acceptance to the Child Well-Being and Child Welfare Specialization. Clinical and Macro Practice Elective.

This capstone course in the Child Well-Being and Child Welfare specialization will integrate direct/micro and macro levels of practice; research in child welfare and related fields, as the research relates to all levels of practice; the relationship of child maltreatment and other social problems; and perspectives from several disciplines, specifically social work, other mental health professions, law, and medicine, as these disciplines address problems of child maltreatment and child welfare. The seminar will highlight issues of social justice, disproportionality - particularly the over-representation of children and families of color in the child welfare system, and disadvantaged populations, including children in general and poor children in

particular. Faculty from other disciplines will be featured as guest speakers throughout the course.

736. Building Community Capacity. (C) Macro Practice Elective.

This course provides an introduction to community organization and community capacity building. The course encompasses strategies, models, and techniques for the creation of organizations, the formation of federations of existing organizations; and coalition-building, all designed to address problems requiring institutional or policy changes or reallocation of resources to shift power and responsibility to those most negatively affected by current socio-economic and cultural arrangements. The course emphasizes development of strategies and techniques to organize low-income minority residents of urban neighborhoods, and to organize disenfranchised groups across geographic boundaries as the first required steps in an empowerment process. Macro Practice Elective

738. Anxiety and Depression. (C) Clinical Practice Elective.

Anxiety and depression are two of the most common mental disorders seen in social work clients, and frequently they occur concurrently. This course describes the medical and "physical" concomitants and psychosocial factors associated with both conditions and introduces diagnostic and assessment procedures and methods of intervention that social workers use in working with clients with these conditions. The course also considers how culture, social class, gender, and other social differences affect the expression of these disorders and their concomitant treatment. Clinical Practice Elective

739. Introduction to Interdisciplinary Health Care: Collaborative Roles.

May be taken undergraduate juniors and seniors. Permit of the instructor is necessary. Contact the registrar, Nancy Rodgers, Room B-22, School of Social Work, Caster Building.

The course addresses basic issues in interdisciplinary collaboration in the health care field including communication, role negotiation, and leadership behaviors among the members of the multidisciplinary team. Case presentation structured exercises, group problem solving, decision making and goal setting will be utilized to demonstrate the roles and functions of several health disciplines. Students are introduced to the relationship between the attainment of the tasks of the

health care team and its internal group processes.

740. Strategic Planning and Resource Development for Public and Nonprofit Organizations. (C) Macro Practice Elective.

Resilient organizations engage in a continuous process of self-review and refocusing. Referred to as "strategic planning," this process requires the active participation of a broad range of agency "stakeholders" who, in their work together, seek to realign the organization's goals, structures, and programs to make them more responsive to the changing needs of their service populations. Building on the content of foundation practice foundation courses, "Strategic Planning and Resource Development" has been designed to strengthen the student's leadership capacity for engaging in strategic planning and resource development practice across a broad range of governmental (GOs) and civil society organizations (CSOs). The importance of organizational flexibility, innovation, and the creation of cooperative public-private partnerships is emphasized throughout the course. Macro Practice Elective

741. (MSSP741) Gender & Social Policy. (B) Baker.

Gender and Social Policy develops an advanced understanding of social policies through a focus on social issues and conditions through the lens of gender, economic and critical theory. The specialized focus on gender and social policy provides students with the opportunity to develop more specialized knowledge about how market dynamics and government policies respond to the needs and risks faced by women. Specific emphasis is placed on utilizing theoretical frameworks to evaluate the intersection between social policy, history and social science in relationship to gender issues. Students are also expected to conduct a policy analysis that includes an evaluation of how current and former social movements surrounding gender issues shaped their policy of interest.

742. Practice with At-Risk Youth. (A) Clinical and Macro Practice Elective; Option for Home and School Visitor Requirement.

The discourse on juvenile justice in the United States, once driven by themes of treatment and rehabilitation, has been dominated in recent years by vocabularies of punishment and incapacitation. The juvenile court, an enterprise founded by social reformers and the social work

profession at the turn of the century to "save children," is now under severe political and legislative pressure to impose harsher penalties on younger and younger offenders who are increasingly portrayed as violent "super-predators," while its most vulnerable segments, children and youth, stand in greatest need of what a social service system can offer. Not surprisingly, those most likely to wind up under supervision are economically poor, under-educated, disproportionately of color and disproportionately at-risk to become victims of violent crimes. How does the profession situate itself in this discourse and what are individual social workers to do? Clinical and Macro Practice Elective; Home and School Visitor Requirement Option

743. Action Research. (B)

Prerequisite(s): SWRK715 or SWRK615. Research Option.

Action research is a form of social research that combines research with intervention. It is characterized by a collaborative relationship between the researcher and a client organization that is in an immediate problematic situation. The research process is directed toward addressing the problem situation and producing knowledge that contributes to the goals of social science. Action research is compatible with many of the values and principles of social work. This course also addresses issues of social work ethics and values encountered by the action researcher.

744. Direct Practice Research. (B)

Prerequisite(s): SWRK 615 or SWRK 715, Introduction to Social Work Research. Research Option.

This course provides graduate social work students with research knowledge and skills aimed at enhancing their direct practice with clients. The course examines methods of assessment, methods for choosing and evaluating techniques of intervention, methods for determining the effectiveness of practice and the use of research in social work decision-making. A successful outcome of the course will be that students perceive a more positive relationship between research and social work practice and possess a set of tools that they will be able to utilize in their future careers as social workers. The course starts from an assumption that students have some familiarity with research and are primarily engaged in direct practice with individuals, families or groups.

746. Political Social Work. (B) Macro Practice Elective.

This course focuses on the role of social workers and the social work profession in advocacy and the political arena. It examines the methods of advocacy (e.g., case, class, and legislative) and political action through which social workers can influence social policy development and community and institutional change. The course also analyzes selected strategies and tactics of change and seeks to develop alternative social work roles in the facilitation of purposive change efforts. Topics include individual and group advocacy, lobbying, public education and public relations, electoral politics, coalition building, and legal and ethical dilemmas in political action. Macro Practice Elective

748. Microfinance and Women's Empowerment in India. (B) Handy.

Application required; \$650 program fee.

This course examines microfinance and its engagement with marginalized communities such as those in India. It is designed to provide students with an understanding of the phenomena of microfinance and its role in poverty alleviation. By studying the use of self-help groups with NGO facilitation, their impact on women's empowerment will be examined and understood through interaction with women engaged in microfinance activities.

SM 749. Civil Society Promoting Coexistence in Israel. (L) Application deadline: February 20, 2015.

This course offers a unique opportunity to experience the challenges and complexities of coexistence in Israel, the Holy Land for Christians, Jews and Muslims; a key point of interest and dispute for the international community, and the homeland shared and claimed by both Israelis and Palestinians. The course will focus on activities carried out by nonprofit organizations operating within the Israeli civil society, dealing with issues related to coexistence and to the protection and advancement of the civil and social rights of different populations, with special emphasis on the Arab-Palestinian population in Israel. These activities include educational and social services programs, community work and advocacy activities, aimed at creating dialogues and building coexistence among the different populations in the Israeli society and Palestine.

755. International Social Work: Practicing in the Global South.

Shown.

This interdisciplinary course will introduce students to societal problems in the developing world; familiarize them with global professions in social work, education, public health, etc.; identify numerous strategies and skills social workers and other professionals have used to collaboratively build interventions within the human rights, social welfare, education, health care and sustainable community development arenas. The course will expose students to views of development as they relate to individual, interpersonal, family, community, societal and international change. Students will learn about the history of specific global problems, how cultures affect response, different social services delivery systems and initiatives aimed at resolution. Students will explore a specific development issue within a country and community.

756. Human Sexuality. (A) MSW Elective.

The aim of this course is to increase students' ability to deal more comfortably with the sexual aspect of human functioning. Readings, written assignments, and classroom presentations are directed to realizing the diversity, complexity, and range of human sexual expression. Current information about sexuality from the biological and physiological sciences is reviewed to increase comfort and skill in discussion and handling of sex-related behavior, personal and societal attitudes will be explored. A variety of sex-related social problems encountered by social workers in family, education, health, and criminal justice settings are discussed. Diagnostic interviewing and treatment methods are presented in role play, group exercises and case studies.

757. Loss through the Life Cycle. (B) Clinical Practice Elective.

This course considers loss as a central theme throughout the life cycle. Content focuses on the physical, psychosocial, spiritual, and cultural aspects of loss, dying and bereavement processes and the interaction among individuals, families and professionals. Students examine historical trends of family, community, and institutional support for the terminally ill and those experiencing traumatic loss and learn ways to advocate for a system of services that supports full decision-making on the part of the client. Course materials, journals, and special projects identify how self and other factors impact service delivery to individuals, families, and

communities experiencing loss, including ethical considerations prompted by cost, technology, and end of life issues. Clinical Practice Elective

758. Faith-Based Practice and Management. (M) Clinical and Macro Practice Elective.

This course prepares students to work to existing and newly formed faith-based social service agencies. It also serves as a national laboratory to extract new knowledge of best practices and the variability of managing and practicing in faith-based social service agencies. Clinical and Macro Practice Elective

759. Substance Abuse Interventions. (A) Clinical Practice Elective.

This course addresses intervention approaches used in social work practice with individuals, families, and groups who misuse addictive substances themselves or are affected by another's misuse. Students learn about addictive substances, models of intervention, how to engage and assess clients, and how to intervene and evaluate the effectiveness of their interventions. The course incorporates theory and research findings on various strategies of intervention. Clinical Practice Elective

760. Mental Health Diagnostics. (C) Clinical Practice Elective.

This course familiarizes students with mental health and mental disorders within the context of the life cycle, viewed from a biopsychosocial perspective. Prevalent categories of psychiatric disorders are considered with respect to their differentiating characteristics, explanatory theories, and relevance for social work practice, according to the DSM and other diagnostic tools. The course includes biological information and addresses the impact of race, ethnicity, social class, age, gender, and other sociocultural variables on diagnostic processes.

761. Spirituality and Social Work Practice. (M) Clinical Practice Elective.

This course strives to seek a balance in exploring the universalistic as well as the pluralistic in relationship to spirituality. Some pluralistic religious and/or spiritual traditions are studied as they exemplify commitments of spirituality and as they intersect with a more universalistic spirituality. The course considers how spiritual and religious systems are related to diversity, including gender, social class, ethnicity and culture, and sexual orientation. Clinical Practice Elective

763. Immigration: Policy & Practice. Chany-Muy. Clinical and Macro Practice Elective.

This course will begin with the history of migration to the US, as well as legal definitions of newcomers, including obtaining documents for lawful permanent residence, refugee status, as well as grounds for exclusion and deportation, and paths to naturalized citizenship. We will then review how a framework of cultural competence, and a strength or asset-based approach can inform service to immigrant clients. The core portion of the course will then focus first on the intersection of immigrants and health, mental health, employment, crimes, public entitlements, and public education. The course will conclude with family issues relevant to immigrant families: women, children, lesbian and gay, and elderly immigrants. Public policy issues will be integrated throughout, and the course will end with specific suggestions on systems change at various levels. By the end of the course students should be able to identify strategies for individual clients advocacy (micro); agency and community strategies (mezzo), and government advocacy (macro) to empower immigrant clients to become full community participants.

765. Supervision and Leadership in Human Services Organizations. (M) Clinical & Macro Practice Elective.

This course builds on social work knowledge, values, and skills gained in foundation practice courses and links them to the roles and functions of social workers as supervisors and managers in human service organizations. Course focus is on providing students with an overview of basic supervisory and human resource development concepts so they may be better prepared as professional social workers to enter agencies and provide direct reports (supervisees) with meaningful and appropriate direction, support, and motivation. Clinical and Macro Practice Elective

768. Social Policy Through Literature. (M) MSW Elective.

This course uses works of fiction that pertain to a specific social issue in order to examine the effect these issues have in human terms on the individual, the family, and the community. Through appreciation of the human condition as portrayed in literature, students learn to frame issues more precisely and present arguments in compelling and convincing ways, thus enhancing the role of social worker as advocate for policy change. MSW Elective

769. Aging: The Intersection of Policy and Practice. (B) Macro Practice Elective; required for students in the PAC program.

This course examines a variety of social welfare policies that affect the rights and interests of older adults. These include policies related to economic security, health, long term care, and civil rights. In addition, the course reviews the policy-making process with a discussion of the influence of legislative sanctions and case law in establishing aging policy in the U.S. The focus of the course is on critical analysis of the key assumptions driving policy and policy change, e.g. social responsibility vs. individual responsibility. Finally, the course includes a critical examination of the intersection between policy and practice, that is, the influence that policy has on the design of interventions and service delivery practices at the state and local level and the impact of changing policies on communities, providers, and older adults. Macro Practice Elective

770. Social Welfare and the Law. (M) MSW Elective.

This course helps students understand the ideal and real functions of the law and recognize the influence of behaviors on the law, and of the law on behaviors. Students have the opportunity to evaluate strengths and limitations of law for empowering historically disadvantaged populations.

771. Social Work Values and Ethics. MSW Elective.

This course is concerned with the influence of ideology, values, and ethics on the development of social welfare policies and social work practice. Particular emphasis is given to the impact of such concepts as freedom, equality, and justice on the creation and implementation of social service programs and on the underlying value structure of alternative modes of social intervention. The course also provides students with a framework to understand and apply ethical concepts such as confidentiality, self-determination, truth-telling, paternalism, conflict of duties, and "whistleblowing," in the daily realities of professional practice. These concepts and their relationship to terminal values are taught through the analysis of cases from the changing environment of policy and practice in the United States.

772. Postcolonial Social Work Practice: International Social Welfare in India. (L) Ghose. Clinical and Macro Practice Elective.

In this course, students examine the global welfare system and its engagement with marginalized communities. This six-week course in Kolkata, India, centers around a sex workers' collaborative in Sonagachi, one of Asia's largest red light districts. Interviews with the collaborative's workers and study of their grassroots movement are combined with class discussions and research projects in which students engage with texts on HIV, sex work, feminist postcolonial theory and international social work.

773. Mental Health Challenges in Childhood and Adolescence. (C) MSW Elective.

This course will be an opportunity for the student and the instructor to explore the concept "psychopathology" as it has been and is applied to childhood and adolescence. There are some psychopathological challenges that are unique to childhood and some which can manifest themselves throughout childhood into adolescence and adulthood. The social worker/practitioner will encounter a wide range of symptomatic presentations among his/her clients. At this time in the fields of clinical social work, psychology, psychiatry, and psychotherapy there are numerous frameworks available to the practitioner to aid in an understanding of symptoms in children and adolescents. During the next several weeks three conceptual frameworks will be articulated.

These three frameworks will elucidate the possible meaning, origin, and/or function of the symptoms and offer to the student a vocabulary with which to engage the situation. At the turn of the 19th century into the 20th century, psychoanalysis emerged in Europe as a method of understanding symptoms from the point of view of internal conflict within the child or adolescent. After World War II in the U.S.A., a model of understanding symptoms from a systemic/cybernetic point of view revolutionized the diagnostic processes involved in working with children and adolescents. Since the late 1980's, postmodern ideas, primarily from Europe and Australia, have greatly influenced and informed the understanding of psychopathology in children and adolescents. Narrative, social constructivist, and linguistic usage patterns have become a common vocabulary in the discourse on psychopathology. This course is not intended to be a reading of the history of child psychopathology. It is intended to

expose the student to the most influential paradigms in the field of child psychopathology.

This MSW elective builds on knowledge of human behavior over the life cycle gleaned from the two HBSE courses: SWRK 602 and SWRK 612 and the foundation practice courses, SWRK 604 and SWRK 614. It continues to sensitize students to populations at risk and those affected by racism, sexism, and other forms of oppression learned across the foundation curriculum. It informs social work practice with children and adolescents in a variety of settings and practice roles.

774. Program Evaluation. (B)

Prerequisite(s): SWRK 715 or SWRK 615, Introduction to SW Research. Research Option.

This course introduces students to theoretical and practical aspects of social service program evaluation. Students learn about the design and implementation of all phases of an evaluation, from needs assessment to analysis of findings. Skills such as survey construction and budgeting are introduced. Intensive analysis of existing studies illustrates how evaluations are designed and how findings affect social programs and policy.

775. (PUBH575) Intimate Violence. (M) MSW Elective.

The purpose of this course is to familiarize students with the definition, theories, causes, processes, consequences, and social interventions in intimate violence. The course will attempt to provide insight on the phenomenon of intimate violence by examining the ways in which it affects survivors, perpetrators, and their children. This will be accomplished by reviewing the current research as well as by exploring how intimate violence is constructed by the participants on the personal, interpersonal, and social structural level. MSW Elective

777. Cognitive Behavior Therapy. (C)

Prerequisite(s): completion of Foundation year curriculum or equivalent. Clinical Practice Elective.

This course provides students with the skills and techniques for providing cognitive therapy to adults, adolescents and children. The course begins with grounding in the cognitive therapy diagnostic assessment process. Students will be instructed how to use the various cognitive therapy psychological testing scales. Emphasis is then placed on learning to use the cognitive therapy model to treat emotional and personality disorders. Students will be taught how to apply cognitive therapy techniques in both

psychotherapy practice as well as in other social work settings such as child welfare, foster care, case management, aging, and hospital social work. Readings will be augmented by videotapes, role plays, and observations of cognitive therapy assessments and cognitive therapy sessions. Clinical Practice Elective

778. Dialectical Behavioral Therapy. (C) Doyle.

In this 5-day intensive course we will examine the underlying theories, empirical foundations, and fundamental skill sets associated with dialectical behavioral therapy (DBT). Students will be expected to participate in role plays, lead mindfulness exercises, and carry out chain analyses. Prior to the class start date, students will have to submit a 15 to 30 page outline of the required text (Linehan, M.M. (1993), *Cognitive-behavioral treatment of borderline personality disorder*, Guilford Press) and to review and complete the study guide for the HBSE text. Students will not be admitted to the first day of class unless these requirements have been met prior to class. No exceptions; you will be dropped from the class.

SM 780. (MSSP780) Policy and "Difference" in Postmodernity. (C)

Dixon-Roman. Policy Option.

Social constructions of "difference" permeate the institutions, spaces, and assumptions of our society. These social constructions include but are not limited to the racialized, gendered, sexed, classed, and dis/abled constructions of the body. By leaning on postmodern thinkers such as Iris Marion Young, Pierre Bourdieu, Judith Butler, Jacques Derrida, Ernesto Laclau, and Michel Foucault, this seminar course will begin by engaging the questions of what is "difference" and how is "difference" discursively constructed and reproduced in society. Using a postmodern lens, the remainder of the course will engage various social science texts that deal with the varieties of "difference" (i.e. race, gender, class, sexuality) and the explicit and/or implicit policy implications of these works. Thus, we will critically engage policies such as welfare, affirmative action, economic policies of taxation, and same-gender marriage, among others. The underlying questions throughout the course will be to what extent does social policy enable the possibilities of freedom, justice, and democracy for the "Other", the deviant, the abject, the marginalized, those of assumed "difference"? And, to what extent does policy constrain those possibilities at the same time?

781. (PUBH604) Qualitative

Research. (B) Prerequisite(s): SWRK 615 or SWRK 715, Introduction to Social Work Research. Research Option.

Qualitative research encompasses a variety of methods that enable the researcher to enter into the "lived experience" of research participants. These methods are particularly sensitive to the voices of populations whose perspectives are silenced by dominant societal discourses. The course begins by giving attention to underlying philosophical issues and traditions of qualitative research and proceeds to examine qualitative research design, methods of data collection, strategies to ensure rigor, data analysis, and presentation of findings. Students will learn about research interviewing, focus groups, and participant observation and ways in which qualitative research can be used to inform and evaluate social work practice and programs. Students will have the opportunity to apply qualitative research methods to in-class activities and individual or group projects.

785. Criminal Justice Policies: Implications for Social Work. (C) Policy Option.

The United States prison population has risen more than three hundred percent in the last three decades. More people are currently incarcerated than at any other point in the history of the United States, and that of the world. This unprecedented period of incarceration has gone largely invisible although it represents one of the greatest social epidemics in the history of the United States. This course provides a critical analysis of the criminal justice system in the United States from a historical and contemporary perspective. It examines the implications of significant criminal justice policies such as the Rockefeller Drug Laws, 3-Strike Legislations, and Mandatory Minimums on the current state of incarceration, and the phenomenon of "Reentry" and "Recidivism". The intersections of criminal justice and social work practice are unmistakable when examining staples of social work practice such as homelessness, mental health and substance abuse, thus the course is intended to facilitate a more informed/holistic practice for all social work students.

786. Social Work Practice & Trauma. (C) Abrams. Clinical Practice Elective.

This course integrates trauma theory and practice and expands practice knowledge to include the treatment and assessment of the survivors of trauma. Emphasis is placed on differentiating PTSD from Complex Trauma in order to identify appropriate,

evidence-based intervention strategies. Topics covered in the course include an historical overview of the development of our understanding of trauma and the exploration of various types of trauma including war trauma, domestic violence, childhood sexual and physical abuse, natural disasters, the experiences of political refugees and organizational trauma. Among the interventions covered in this course are CBT, EMDR, group and psychodynamic treatment. Students will consider issues that affect those treating the survivors of trauma, such as vicarious trauma, and will explore approaches to self-care. This is an advanced clinical course. Through assignments and class discussions, students are encouraged to use their experiences in the field to deepen their understanding of the material covered in the course.

SM 788. Harm Reduction on the Borders: Substance Use and HIV Treatment in Puerto Rico. (L)

This course examines the U.S.-based substance use and HIV treatment systems, and its engagement with injection drug users in Fajardo, Puerto Rico. It is designed to provide the students with an understanding of the political economy of harm reduction initiatives, and the manner in which it is shaped by the complicated relationship between Puerto Rico and the U.S. Students are expected to gain an understanding of Puerto Rico's welfare environment, the role of social welfare and social workers in such a context, and the interweaving of social control and social change embedded in welfare initiatives in "borderlands" such as Fajardo. During the four week course in Fajardo, students will complete a placement in a needle exchange program, and engage with texts on HIV, substance use, postcolonial theory and international social work.

792. Psychodynamic Theory. (B) Abrams. Clinical Practice Elective.

The purpose of this course is to review the evolution of psychodynamic theory and consider key concepts in psychoanalysis, ego psychology, object relations theory, self-psychology, attachment theory, relational and intersubjective theories and current findings in cognitive neuroscience. Participants will explore human psychological functioning as explained by these various psychodynamic theories and through the biopsychosocial lens that informs social work practice. Students will examine how external factors such as race, class, gender, culture and biology are interwoven with often unconscious, internal psychological determinants, creating the

complexities of human behavior that challenge us in our clinical work. Case presentations by students, the instructor and guest lecturers will demonstrate how concepts from psychodynamic theory can be applied to social work practice with diverse clients in varied settings.

793. (NURS640, PUBH551) Global Health and Health Policy. (M) MSW Elective.

This participatory interdisciplinary seminar course examines contemporary issues in public health policy and global health. The organizing framework is social determinants of health. We consider evidence that inequalities in education, income, and occupation influence health status, and the policy dilemma that broad interventions to improve population health may increase health disparities. We critically examine whether prevention is always better than cure, and what modern medicine has to offer in terms of health. We explore the public policy process in health using the "tobacco wars" as a case example, of how politics, policy, law, commercial interests, and research intersect to affect the public's health. We examine whether global health is in a state of decline, and the extent to which failures in public health, public policy, and foreign policy have contributed to increasing threats to world health. Likewise we will examine the potential for greater integration of health into foreign policy to create global infrastructure upon which to advance health. We will examine the global health workforce and the impact of widespread global migration of health professionals on receiving and sending countries.

There are no prerequisites. The course is designed for graduate students in the social and behavioral sciences, health professions, public health, business and law. Advanced undergraduate students will be admitted with permission.

794. Practice with Older Adults and Families. (A) Clinical Practice Elective.

This course focuses on practice with older adults and families within a life course and resiliency perspective. It examines the nature of the aging process, needs and life issues, the ways in which persons adapt to changes, and the ways in which interventions may assist with these adaptations. Students learn assessment, case management, and intervention skills, including the use of rapid assessment and diagnostic tools, needed to work effectively with older populations and family caregivers in a variety of community-based and institutional settings. The course

emphasizes evidence-based practices that enhance quality of life, dignity, respect for differences, and maximum independent functioning. Clinical Practice Elective

796. Family Economic Mobility. (B)
MSW Elective.

In this course, the experiences and voices of mothers, fathers, children, employers, children's school teachers, human service workers, educators, trainers, and other in cities across America graphically illustrate "real life" urban poverty and its two remedies: welfare and work. In the context of popular beliefs and individual and institutional practices, these voices dramatically show how poverty, welfare, and work intersect to perpetuate economic inequality for most low-income working families. The labor market, welfare and workforce programs, public schools and social policies are some of the main American (and global) institutions implicated in this intersection. Concepts such as the "work ethic," "family-friendly workplace," and "good jobs" are deconstructed in terms of their meaning for today's families, organizations and policies.

At base, this course examines occupational mobility in America within the broad framework of capitalism, democracy, race, ethnicity, and traditional gender roles. Students read classic and contemporary literature from occupational social work, sociology, cultural anthropology, and political science to explore generative roles for "meso-oriented" clinical, macro and policy professionals.

798. Advanced Topics. (C)

Titles and Topics vary. See department website for descriptions:
<http://www.sp2.upenn.edu/programs/msw/courses.html>

Social Welfare PhD courses

803. History and Philosophy of Social Welfare. Stern. PhD students only.

This seminar traces the evolution of social welfare from ancient to modern times focusing on its implications for the development of contemporary social welfare in the United States. The course examines the development of social welfare systems and the underlying philosophies in the context of the social, economic, political, and cultural environments in which they emerged. Topics include the evolution of modern conceptions of the "welfare state," the role of public, private and voluntary sectors in the social services, trends in social and family history and their relationship to social welfare, the

professionalization of social work, and methods of historical and social policy analysis.

811. Social Theory. (C)

Course reading consists of the original works of theorists who offer classical, contemporary and postmodern perspectives on social thought, social interaction and issues germane to social welfare. Through intensive examination of multiple theoretical frameworks, students are expected to increase their analytical and critical orientation to theory. This nuanced understanding about epistemology, underlying assumptions, and theory construction can then be used to inform the student's substantive field of study and methodological orientation to research. This course is conducted in mixed lecture-seminar format. Students have the opportunity to practice pedagogical techniques and exercise class leadership.

852. Social Work Research. (A)

Prerequisite(s): Completion of concurrent enrollment in a course on introductory Social Statistics.

This is the foundation course in social work research. It deals with the nature of scientific inquiry; theory and its relation to research design and hypothesis testing; and various models of data collection, sampling, and analysis of research and is supported in following personal interests within the structure of ethical scientific research. Each student prepares an original study which demonstrates integration of the semester's work. Students learn to work on their own. At the end of SWRK 852, they are prepared for more advanced coursework in research.

853. Qualitative Research. (B)

Prerequisite(s): SWRK 852 or an equivalent.

This course offers the advanced graduate student an in-depth study of the theory and methods of interpretive qualitative inquiry. Topics include the philosophic assumptions and positions within qualitative research, design issues and alternatives, data collection methods, data sources, sampling, criteria for rigor, data analysis, and reporting strategies. Special attention will be given to grounded theory, ethnography, and the analysis of interviews, as well as methods of identifying and engaging hidden populations. Students will have the opportunity to use qualitative research strategies in class and in field assignments. This course is intended for doctoral students in the social sciences. Master's students will be admitted with permission.

855. Advanced Research Methods.

(B) Prerequisite(s): SWRK852 and Introduction to Statistics.

The methodology of accountability research in human service programs is studied. Emphasis is placed on social program evaluation, idiographic research, and secondary data analysis in policy research as specialized methods of social work research. Students undertake a laboratory experience in an ongoing program evaluation project.

861. Policy Analysis. (B)

Prerequisite(s): Must have successfully completed a course in multivariate statistics.

This course examines alternative models of policy development and applies them to current issues in social welfare. It emphasizes frameworks for policy research and secondary analysis of governmental data. Topics include: race, class, and sex in policy outcomes; major social welfare programs; and the design, implementation, and evaluation of social service systems.

899. Independent Study.

Independent studies may be arranged on an individual or small group basis between students and a faculty member. The learning objectives associated with independent studies are highly specialized and must relate directly to the student's individualized educational plan. Students, with the faculty member, share responsibility for the design, structure and content of an independent study. No more than two independent studies may be arranged for an individual student.

SM 968. Social Welfare and Social Economics.

This course examines the social welfare aspects of major economic decisions in the United States. Particular attention is paid to exploring the implications of social choices in relation to the goals of the achievement of increased equity and equality in the distribution of income and power, and the elimination of unemployment, and the control of inflation. The growth of public welfare programs and the base of funding for social services are examined in terms of the nation's economic and political objectives.

995. Doctoral Dissertation.

Doctoral Dissertation

Clinical Doctorate in Social Work courses

804. Methods of Inquiry:Quantitative Research Methods. Prerequisite(s): Must be enrolled in D.S.W. program.

The purpose of this course is to teach the basics of practice research, with an emphasis on intervention research. This course will focus on research ethics, building a conceptual framework, source credibility, question and hypothesis formulation, design, design, sampling, measurement, and scale construction and selection. Special emphasis will be placed on the development of designing feasible and practical research studies to answer questions of importance to social work practice. The course will emphasize the selection and development of outcome measures, intervention manuals, and fidelity measures. It will closely examine the use and development of practice guidelines, evidence-based practice and meta-analytic procedures.

805. Methods of Inquiry:Qualitative Research Methods. Prerequisite(s): SWRK804-001. Must be enrolled in D.S.W. program.

This course will cover the essentials of qualitative research. Students will learn how to "situate themselves" in the research process so as to best capture the lived experience of the subjects under investigation. The course will explore the appropriate use of intensive interviews, grounded theory and ethnography. Mixed methods that employ both qualitative and quantitative approaches, will also be covered.

812. Clinical Theory I. Prerequisite(s): Enrolled in D.S.W. program.

The purpose of this course is to broaden and deepen participants' mastery of several theories of development, personality, and behavior that have contributed to social work's knowledge base across the decades and continue to inform clinical social work epistemology today. Drawing primarily from original sources, we will consider key assumptions, constructs, and propositions of each theory in terms of its congruence with social work's principles, values, and mission and in relation to the profession's person-in-environment perspective. In this first semester, we will study the evolution of theories central to psychodynamic thought, from Freud's early biological model of the mind, through various relational perspectives, to contemporary work in the fields of attachment and interpersonal neurobiology. This examination will constitute a case study of

the manner in which theories are socially constructed and will lay the foundation for critical inquiry into the social and political biases inherent in the Western European intellectual tradition from which most theories of human behavior have emerged.

813. Clinical Theory II. Prerequisite(s): SWRK812. Must be enrolled in D.S.W. program.

This course critically examines theories, perspectives, and frameworks informing clinical social work practice. These theoretical perspectives provide means for practitioners to understand a client or client system in context and offer strategies for intervention. The course begins by considering the development of social work practice theory thematically and from a historical perspective. Practice theories that have contributed to the knowledge base of clinical social work practice will be examined within the social, political, and ideological contexts of their times and against the backdrop of the development of the profession. The course will explore debates within the profession (e.g., art vs. science; empirical practice vs. constructivism; what constitutes professionalism) and in related fields (modernism vs. postmodernism) and evaluate the discourse on these topics. As the course moves into contemporary times, recent developments in clinical social work practice theory will be examined. Attention will be paid to factors that influence clinical social work practice now and are likely to influence the profession in the future.

SM 900. Clinical DSW. Staff. Prerequisite(s): Must be enrolled in D.S.W. program.

Topics vary; see department for current course descriptions

SM 920. CLINICAL PRACTICE I.

SM 921. CLINICAL PRACTICE II.

Master of Science in Social Policy Courses (MSSP)

SM 514. (PSCI414) Comparative Politics of the Welfare State.

This class explores the origins, development, and possible futures of social policy regimes in the industrialized countries, in the context of broader political and historical trends. Topics include pensions, health care, and poverty alleviation; "families" of welfare states; the relationship between labor markets and social policy; feminist and Marxist critiques of welfare states and welfare state

studies. Open to graduate students and qualified undergraduates with permission of the instructor.

628. Policy: Analysis of Issues, Strategy and Process. (C)

Prerequisite(s): Enrolled in MSSP program or permission of instructor.

Policy analysis requires an understanding of social problems/social issues and the processes by which policy is developed and implemented. Critical skills in many policy frameworks include: problem definition and analysis, review of relevant research, identification of possible actions, implementation and evaluation, and fiscal analysis. Competency in written and oral communication is also essential. To develop these and related skills, this course utilizes as a base a dynamic social problem analysis framework that addresses issues of equity, equality and adequacy. It also examines multiple theoretical and analytical perspectives. Through the review of contemporary and historical social policy debates and provisions, selected case examples and policy briefs, this course provides students with an understanding of the policy roles of the legislative and executive branches of government, including goal setting, policy rulemaking and enactment, allocation of resources, financing, regulation, and implementation. The policy process at state and local levels of government will also be addressed. The primary focus is on U.S. policy although global policies will be discussed when relevant.

629. Research and Evaluation Design. (B) Prerequisite(s): Enrolled in MSSP program or permission of instructor.

Research and Evaluation Design introduces social research methods in the context of social policy and program evaluation. The course provides a conceptual and practical understanding in the design of experimental, quasi-experimental, and non-experimental research and in the application of quantitative and qualitative methods. Students learn about the application of the research process and skills in all phases of assessing a social policy and developing a social program, including needs assessment, implementation analysis, and evaluation of policy or program effectiveness. Students learn to be critical and informed consumers of research and to apply guidelines of research ethics in social policy settings.

L/L 630. Quantitative Reasoning/Social Statistics. (A)

Prerequisite(s): Enrolled in MSSP program or permission of instructor.

The primary goals of this course are (1) to provide students with a solid understanding of the logic of social science research as well as (2) to provide students with an introduction to a broad range of statistical methods commonly used in social science research. The first portion of the semester concentrates on defining research problems, research design (including sampling, measurement, and causal inference), and assessing research quality. The latter portion of the semester focuses upon data analysis including descriptive statistics, measures of association for categorical and continuous variables, introduction to t-tests, ANOVA and regression, and the language of data analysis. Students will learn how to choose and apply statistical tools to data sources, how to interpret quantitative studies, and will gain experience using SPSS - a statistical software package..

631. Law and Social Policy. (B)

Prerequisite(s): Must be registered in Masters in Social Policy program or permission of instructor.

This course introduces students to the basics of the American legal system, focusing on the interplay between litigation and social policy. Students will learn how law, and particularly case law, is made, how to read case law and evaluate precedent, legal reasoning and argument. This course will utilize various teaching methods including introduction to the "Socratic" lecturing method which is frequently utilized in the study of law. Students will also study the structure of court systems at both state and federal levels as well as the litigation process and the role of law and courts in shaping and addressing social policy issues. Students will also learn the basics of several areas of substantive law, with an eye toward consideration of how that law has been, and can be, used to effect social change.

SM 632. Capstone Seminar. (B)

Prerequisite(s): Enrolled in MSSP program.

The focus of the Capstone Seminar is three-fold: 1) to enhance student integration of the theory and practice of social policy analysis; 2) to enhance the student's competencies in the written and oral communication processes and procedures necessary for the policy world; and 3) to ensure basic knowledge about federal budget processes, stakeholder roles, and inter-organizational collaboration. Capstone II consists of an intensive, multi-

week policy internship that is selected through a consultative process involving the student, MSSP advisors, internship coordinator/advisor, and mentors/supervisors at potential sites. The internship provides an opportunity for the student to expand horizons beyond the academic. It serves as a medium to integrate classroom learning with experiences in policy making activity.

SM 668. Economics for Social Policy.

(A) Corequisite(s): Students must register for lecture section (001) and ALL 4 corresponding seminar sections (301-304).

This course provides students with theory and tools from the field of economics that are useful for the field of social policy, such as: 1) critical macroeconomic and microeconomic concepts for social policy formation and analysis; 2) information about the Congressional budget process and federal budget, U.S. and global monetary policy, economic measurement indices, and tax policy in relation to social policy values of equity, equality and adequacy; 3) how to apply cost-benefit analysis and/or cost-effectiveness analysis to policy proposals; and 4) the role of nonprofit organizations in the provision of social services and programs that are mandated by federal legislation.

670. Education, Society, and Social Policy. (B)

This course is concerned with interrogating the dualism of schools and society that has been an on-going discourse in philosophy, research, and policy. In education policy, in particular, the question of the educative experiences that go on beyond schooling have been slow to be taken up and often relegated to public and social policy. And due to the siloes of policymaking and implementation there has been very little dialogue or collaborative design between education and social policy, leaving major gaps in the experience and process of education and human development. This course will begin by looking at how educational philosophy and theory has taken up this dualism beginning with Nietzsche, Dewey, Durkheim, and Marx, through Ivan Illich, Larry Cremin, Jean Lave, Edmund Gordon, and Herve Varenne. Then, we will survey various social and educational research that examine the various spaces outside of schooling that matter for human learning and development including the Coleman Report, and work on poverty, education, and human development. The third part of the course will explore both actual and proposed policy models to address a much broader understanding of education such as

Head Start, the Harlem Children's Zone, 21st Century Community Learning Centers, The Broader Bolder Approach, and other supplementary and comprehensive educational services and

710. Democratizing Data: Analytics for Social Change. (M)

With the advent of digital technologies and the increasing power of computational analytics, the proliferation and ubiquity of data production has increased at exponential rates enabling new possibilities for social analysis. This course will examine the emergence of democratizing data -- the movement to make government and other data more widely or publicly available and its potential enabling for democratic possibilities. The types of data being made available, through various analytic systems, and the ways in which their accessibility and inaccessibility is contributing to reconfigured power relations, will be described. The paradigmatic tensions and shifts that have emerged in the debates on "Big Data," such as deductive versus inductive reasoning and the challenges posed to statistical sampling theory, will be interrogated. The appropriation of machine learning and predictive analytic algorithms for social analysis will be critically explored. Issues related to the ethical and legal use of administrative data, particularly data related to patient, client, student, and taxpayer information will be considered, as well as from internet-based sources including social media. Potential solutions to data security challenges will be additionally considered.

Methods for web-scraping of data, analysis of web traffic data, and the use of social networking data in the modeling of social phenomena and public opinion will be examined. Students will learn how to make results accessible to non-technical audiences via data visualization tools, such as web-based data dashboards and web-based maps. These topics will be discussed for the analysis of health, education, and social policy as well as their implications for questions pertaining to race, gender, class, sexuality, dis/abilities, age and youth culture. This course will develop students' knowledge of computational and data analytics and its applications for social policy analysis.

741. (SWRK741) Gender & Social Policy. (B) Baker.

Gender and Social Policy develops an advanced understanding of social politics through a focus on social issues and conditions through the lens of gender, economic and critical theory. The

specialized focus on gender and social policy provides students with the opportunity to develop more specialized knowledge about how market dynamics and government policies respond to the needs and risks faced by women. Specific emphasis is placed on utilizing theoretical frameworks to evaluate the intersection between social policy, history and social science in relationship to gender issues. Students are also expected to conduct a policy analysis that includes an evaluation of how current and former social movements surrounding gender issues shaped their policy of interest.

SM 780. (SWRK780) Policy and "Difference" in Postmodernity.
Dixon-Roman.

Social constructions of "difference" permeate the institutions, spaces, and assumptions of our society. These social constructions include but are not limited to the racialized, gendered, sexed, classed, and dis/abled constructions of the body. By leaning on postmodern thinkers such as Iris Marion Young, Pierre Bourdieu, Judith Butler, Jacques Derrida, Ernesto Laclau, and Michel Foucault, this seminar course will begin by engaging the questions of what is "difference" and how is "difference" discursively constructed and reproduced in society. Using a postmodern lens, the remainder of the course will engage various social science texts that deal with the varieties of "difference" (i.e. race, gender, class, sexuality) and the explicit and/or implicit policy implications of these works. Thus, we will critically engage policies such as welfare, affirmative action, economic policies of taxation, and same-gender marriage, among others. The underlying questions throughout the course will be to what extent does social policy enable the possibilities of freedom, justice, and democracy for the "Other", the deviant, the abject, the marginalized, those of assumed "difference"? And, to what extent does policy constrain those possibilities at the same time?

L/L 897. Applied Linear Modeling. (B)
Prerequisite(s): Introductory Graduate Statistics.

This course deals with the underlying assumptions and applications of the general linear model with social science, education, and social policy related questions/data. The first half of the course begins by covering simple linear regression and the assumptions of the general linear model, assumption diagnostics, consequences of violation, and how to correct for violated assumptions. This will also include methods of incomplete case analysis (i.e.

missing data analysis). Then various aspects of regression analysis with multiple independent variables will be covered including categorical explanatory variables (e.g. to estimate group differences), interaction effects, mediating effects (e.g. to estimate the indirect effect of social processes), and non-linear effects. The course will then cover some of the applications of the general(ized) linear model including logistic regression, some elements of path modeling (structural equation modeling), multilevel analysis (hierarchical linear modeling), and longitudinal modeling (growth modeling). The course will be taught using SAS, but students are welcome to use any statistical package of comfort. Pre-requisite: Introductory Graduate Statistics.

Master of Nonprofit Leadership Courses (NPLD)

510. Social Innovation. (B) Frumkin.
Open to graduate and undergraduate students.

This is a class focused on understanding how innovation plays a central role in public problem solving. We will explore how social entrepreneurs develop their ideas, define intended impact, market their solutions, understand competition, and collaborate with other actors. At the end of the course, students will have mastered a set of conceptual tools that will allow them to be effective problem solvers in diverse settings throughout their careers. The course has five core objectives: 1. To introduce students to the concepts and practices of social entrepreneurship; 2. To introduce students to the components of a successful social enterprise; 3. To equip students with the tools to be able to accurately identify and assess innovation and impact in social enterprises; 4. To train students to view the world from a perspective of social innovation; and 5. To empower students to develop their own innovative solutions to difficult social problems around the world.

SM 560. Social Media for Social Change. Half credit.

Nonprofit organizations have been some of the first adopters of social media tools, and they are increasingly turning to the use of social media to fulfill a range of communications, outreach, and marketing needs. This half credit course will introduce students to the importance of understanding the online space and how it can enhance the work of every nonprofit organization. Students will begin to develop an understanding and awareness of core platforms and tools along with the

importance of metrics, feedback loops, and taking an iterative approach based on social media best practices.

561. Nonprofit Branding. Rhode. half credit course.

This course will provide the tools and framework for helping to understand the role that marketing and brand building can play in the non-profit sector. As such, we will create a shared understanding of the key concepts that help define branding and the classic elements of marketing that will serve as a foundation for discussion and analysis throughout the semester. We will identify the fundamental differences that non-profit organizations face in building their brands and how those challenges differ from tradition/for profit brand building. We will identify tools and frameworks that brands/organizations can use to help design and implement marketing strategy. We will utilize current and relevant case studies that help demonstrate the core concepts of this course.

562. (Almost) Everything You Need to Know About Nonprofit Law.
Kramer.

This half credit course will provide a basic understanding of the law that applies to nonprofit organizations, with an emphasis on the law affecting 501(c)(3) public charities. It will focus on ways to obtain and maintain federal tax exempt status, including issues of private inurement and private benefit, limits on advocacy, lobbying and electioneering, unrelated business income tax, and excess benefits taxes. It will show how legal structure and governance procedures affect the answer to the questions "Whose Organization Is It?" Students will review bylaws of multiple organizations to see how differences in structure reflect the great diversity of nonprofits and why "one size does not fit all" within the sector. They will learn how to avoid bad legal drafting that can create problems for dysfunctional organizations.

The course will explain the fiduciary duty of officers and directors, explore the extent of potential personal liability, and review necessary insurance and indemnification. It will review Form 990 publicly available tax returns of multiple nonprofits to see why a tax return may be a nonprofit's most important public relations document. It will also review the basics of charitable giving through a mock meeting of university development officers, outline the concepts of planned giving, and discuss the requirements for charitable solicitation registration at the state level. It will explain the legal requirements for maintaining

endowments and discuss a series of ethical issues that can face nonprofit executives and their lawyers.

Students will receive one year of free access to Don Kramer's Nonprofit Issues website, and will emerge with a better understanding of key legal issues facing the nonprofit sector that regularly make the news.

563. Raising Philanthropic Capital. Hagin.

Americans gave more than \$350 billion to nonprofit organizations last year, the highest total ever recorded. Now, more than ever, it is crucial that nonprofit leaders master the art and science of raising philanthropic capital. Participants in this innovative class will: 1) acquire an understanding of the nonprofit funding landscape; 2) learn proven and creative strategies to secure investments; 3) gain the experience of giving and motivating charitable commitments; and 4) receive peer evaluation and professional consulting feedback. This experiential and interactive learning course will provide students an opportunity to evaluate a nonprofit organization endeavoring to attract voluntary support, and coach students to think through and develop the ideas, skills, and tools required to participate personally in today's philanthropic market.

570. Nonprofit Planning & Finance. Burd.

This spring semester financial budgeting course for nonprofit organizations will focus on strategic issues in nonprofit finance, specifically on capitalization strategies that position nonprofits for greater impact. The foundation of these goals is understanding and applying appropriate budgeting principles and best practices in internal organizational systems. Students will have exposure to a variety of budgeting scenarios including annual operating budgets and zero-based budgeting, program profitability, new facility planning, and transformational growth. The class will utilize a variety of teaching tools: case studies, hands-on budget analysis and development, student applied study with a nonprofit organization, and guest speakers. This course on financial budgeting is open to all graduate and professional school students who have a familiarity of the principles of nonprofit finance.

580. Effective Governance Practices for Nonprofits. (A) Shmavonian. .5 cu course.

Effective governance relies upon consistent and ethical board leadership, yet nonprofit

organizations that exemplify truly model governance are few and far between. This course introduces students to broad frameworks of governance, but will focus most deeply on the human dimensions of board leadership. In particular, we will examine real examples and cases of moral and ethical dilemmas faced by nonprofit boards and executive leaders, and the nuanced practices required to achieve effective board governance. This will involve a careful look at several real cases, as well as guest lectures from 3-4 different nonprofit board and CEO leaders. The invited leaders will use their own experiences to guide students through some of the most challenging ethical and managerial situations that can be encountered, with the goal of providing a practical grounding for students who expect to contribute to nonprofit leadership in their careers - either as executive staff or as board members.

Fall 2016 class dates: 8/31, 9/12, 9/19, 10/10, 10/24, 11/7; 5:00-8:00PM

581. Effective Governance Practices for Nonprofits. (B) Shmavonian. .5 cu course.

Effective governance relies upon consistent and ethical board leadership, yet nonprofit organizations that exemplify truly model governance are few and far between. This course introduces students to the broad framework of fiduciary, strategic and generative governance but will focus most deeply on the human dimensions of board leadership. In particular, we will examine real examples and cases of moral and ethical dilemmas faced by nonprofit boards and executive leaders, and the nuanced practice required to achieve effective board governance. This will involve a careful look at several real cases, as well as guest lectures from 3-4 different nonprofit board and CEO leaders. The invited leaders will use their own experiences to guide students through some of the most challenging ethical and managerial situations that can be encountered, with the goal of providing a practical grounding for students who expect to contribute to nonprofit leadership in their careers - either as executive staff or as board members. The course will include the review of 4-5 cases, readings, 2-3 brief student presentations, a team project and one final individual project.

This course complements another half-credit course that was offered in fall 2014 (NPLD 580), Nonprofit Governing Boards. While there is some continuity between the two semesters (both build upon the Chait, Ryan, Taylor frameworks set out in Governance as Leadership), each class may be taken independently as a half-credit

course. The spring class offers a deeper, more interactive probe into the elements of governance that arise in real practice, animated by dynamic nonprofit leaders sharing their experiences. Each course is targeted toward students who are interested in pursuing non-profit board or executive leadership roles, and will be coordinated with the Wharton Nonprofit Board Leadership Program (NBLP).

582. NGOs and International Development. Thompson.

The course will offer a broad perspective on international development, aid, and the roles of NGOs and social enterprises. The latter half of the course will focus on issues in NGO management: fundraising, staff (expatriate and local), monitoring, and evaluation (including randomized controlled trials). The course is aimed at students with no to moderate experience in international development, but students with extensive work experience with NGOs or development work are also welcome.

This course is organized around two motivating questions: 1) How do we understand the process of development, and what is the NGO's role to be in it? 2) If NGOs can meaningfully contribute to development, what are the exemplar and cutting edge practices for NGO management?

587. Building Nonprofits that Thrive. Myers.

This course is designed for interdisciplinary students with an enthusiastic interest in cultivating flourishing organizations, engaged stakeholders, and inspiring leaders across sectors and especially within nonprofits. Over the past several years, the field of Positive Organizational Scholarship (POS) has proliferated, yielding a compelling body of knowledge on how and when people thrive at work. This course focuses on both the theoretical and practical insights that can be gained from cutting-edge POS research and applied to help practitioners enrich people's experiences at work. Special attention is placed on how this wisdom applies not only across sectors but also specifically to the nonprofit organizational context. Key topics of study include: aligning leadership values, motivation and giving behaviors, facilitation tactics, appreciative inquiry, building high quality connections, job crafting and meaning at work, real-world application.

In particular, the learning objectives of the course provide students with: 1) Knowledge of cutting-edge POS research and leadership practices; 2) Ability to identify opportunities to use positive

leadership practices in the workplace to enhance stakeholder engagement, individual and organizational performance, and collective impact; 3) Tools for applying positive leadership concepts in nonprofits, as well as all other organizational domains (e.g. business, government, coaching, the family, etc.); 4) Consulting experience with a local non-profit, including group projects of research and assessment that culminate in presenting to the non-profit organizations strategic recommendations for future success; 5) Techniques and real-life practice in using positive leadership concepts to enrich one's own career, relationships, and life.

589. Ethics and the Pursuit of Social Impact. (A) Handy.

Leaders of organizations must often make difficult decisions that pit the rights of one set of stakeholders against another. Having multiple stakeholders or bottom-lines brings with it challenges when conflicts arise, with the perennial question of whose rights/benefits prevail? What trade-offs need to be made between multiple bottom lines? Does the mission of the organization prevail over the privileges of employees/clients? To what extent can large donors influence the mission of the organization? What is an appropriate social return on investment? This course will introduce the factors that influence moral conduct, the ethical issues that arise when pursuing social goals, and discuss the best ways to promote ethical conduct within such organizations. The course will use specific case studies, real and hypothetical, to analyze a variety of ethical issues that arise (including finance, governance, accountability, fundraising, labor (paid and unpaid), client groups, and service provision) among the multiple stakeholders. This course is offered in the fall semester and will conclude by discussing ways that organizations can prevent and correct misconduct, develop a spirit of ethical behavior and institutionalize ethical values in the organization's culture.

590. (NPLD790) Social Finance. (A)

Lamas. The course is open to students across the University. All graduate students who take this course must register under NPLD 790. All undergraduate students must register under NPLD 590.

Economic analysis and financial accounting are like languages: fluency comes with practice. In-class review of case studies (including in-person discussions with the representatives of diverse agencies and organizations featured in the case studies) will enable students to test and develop

their capacity for applying conceptual tools and analytical methods to sometimes messy and always complicated, real-life situations.

The course objective is to develop theoretical understanding, critical judgment, and practical skills for sensitive and effective engagement with financial and economic matters of significance. Students will learn: (a) different ways of thinking about the economic foundations of social policy, (b) the basic terminology, tools, and methods for analyzing the financial statements of a wide range of organizations, and (c) accounting procedures for evaluating business, government, and organizational operations, policies, and practices.

This course is at once macro and micro in its orientation: It provides a conceptual basis - derived from mainstream and alternative perspectives - for thinking about the economic dimensions of human development and social policy, and it introduces a set of core competencies for leadership and financial management of organizations, including conventional enterprises, consulting firms, research institutions, governmental agencies, philanthropies, cooperatives, and other third-sector organizations.

591. Change Making: Personal Traits and Professional Skills. (L) Sherman.

Over the past decade, researchers have identified some of the key skills that people need to succeed in their work and in their lives. These are skills that anyone can develop with practice. In this class, we will teach three of the key skills: resilience (the ability to thrive in difficult times); creativity (the ability to come up with innovative solutions to problems); and productivity (the ability to make the best use of your time and find life balance).

This summer session will take place through dynamic, interactive workshops. During the first session we will learn the key skills. Over the course of the next three weeks, we will practice these skills to see significant improvement in important areas of our daily lives. By the final day of class, we will talk about how to sustain these gains in our personal and professional lives long after the course has ended.

Summer 2016 meeting times: June 4-5, June 11-12, June 25-26, 10am-5pm

592. Collaboration across Sectors. (B) Ren.

Across the world, leaders of organizations from business, nonprofit, and government sectors increasingly recognize the necessity of "working across boundaries" by developing various forms of collaboration. Collaboration across sectors has become

more prevalent, important, and complicated. This course will help graduate students understand the theory, policy, and practice of across-sector collaboration. Students will learn the purposes collaborations may serve, the forms they take, what skills and techniques are required, and the steps involved in initiating, sustaining, and evolving them. Students will also learn the characteristics of the three sectors, the roles and contributions each can make to successful collaborations, and the competitive forces that are often at work in the collaborative processes and their possible implications. The course is open to all graduate students and sophomore, junior, and senior undergraduates.

593. Design Thinking for Social Impact. (L) Lidgus.

Thinking like a designer can transform the way people and organizations develop products, services, processes, and strategy. This approach, called design thinking, brings together what is desirable from a human point of view with what is technologically feasible and economically viable. It also allows people who aren't trained as designers to use creative tools to address a vast range of challenges.

Design thinking is a deeply human process that taps into abilities we all have but get overlooked by more conventional problem-solving practices. It relies on our ability to be intuitive, to recognize patterns, to construct ideas that are emotionally meaningful as well as functional, and to express ourselves through means beyond words or symbols.

Sarah Lidgus, a writer and strategist with the design firm IDEO and, formerly the non-profit IDEO.org, will lead students through an immersive, hands-on class in order to demonstrate the philosophy and practice of design thinking. Design thinking is something you can learn only by doing, so we'll get out into the world and tackle a design challenge of our own together. We'll learn how to research by researching, learn how to prototype by prototyping. At the end of the class you should feel confident in your abilities to apply design thinking to any challenges you're facing - and to come up with new ideas and solutions as a result.

Summer 2016 course meeting times: June 9, 10, 17, 9am-5pm; June 18, 10am-6pm; June 24, 9am-1pm.

595. Nonprofit Storytelling. (L) Eyerly.

Prospective and ongoing volunteers, donors, and other supporters are motivated by a strong belief in a nonprofit's mission, confidence in its reputation, and certainty

that the organization is using resources wisely and making a difference. Their belief, confidence and certainty are rooted not only in what nonprofits do, but how they talk about it. In this class, students will learn why storytelling should be at the center of nonprofit communications. What are good stories? How are they structured? Where do you find them and how do you communicate them? Can a nonprofit build a culture of storytelling among its leaders, staff, and the population it serves? Does telling stories really help nonprofits advance their missions? We will use current and relevant case studies that help demonstrate the core concepts of this course.

SM 782. Small Group Processes.

Taylor, McGrew, Kaminstein, Jean-Pierre. see website for course dates/times: <http://www.sp2.upenn.edu/degree-programs/ms-in-nonprofit-leadership/academics/course-schedule/>.

Studying the behavior of groups and the actions/inactions of people within groups provides a doorway to deeper understanding of ourselves, our families, our friends, our colleagues, our organizations, and our communities. This .5 credit course is designed for Penn Graduate students eager to generate constructive group processes when chairing a committee, managing a work group, teaching in a classroom, conducting a support/therapy group or facilitating strategy formulation. It is easy to look back and see what went right or wrong in a group or when observing what others are doing. But tuning into and gaining a comprehensive grasp of these processes when they are happening and learning how to take constructive actions in the here and now when it can have a meaningful impact, requires a high level of cognitive capability combined with a special form of relational artistry. This weekend course is an amalgam of experiential activities and energizing ways to internalize the rich concepts developed during a hundred years of research. Participants are required to be fully present and fully engaged for the whole weekend, read the equivalent of a book's worth of material, and write an 8-page (double spaced) paper. Taught by senior groups instructors, including those who have worked in the Small Group Process workshop in the Wharton Leadership Ventures.

783. Field Exercise in Social Impact Measurement. Hargro.

The twofold purpose of social impact measurement is to assess and improve the impact of nonprofit programs, and to

inform grantmaking practice and effectiveness. In addition to accounting for funds spent and reporting on the actual work carried out, social impact measurement is an essential learning opportunity for grantmaker and grantee. However, choosing an appropriate methodology of measurement is critical. This course will offer an overview of leading social impact measurement methodologies and tools, and an impact measurement field exercise. During the field exercise, student teams will develop an evaluation plan and associated instruments for a local nonprofit using one or more of the methodologies. Teams will present their evaluation plans and offer recommendations for implementation. Lectures will be complemented by class time devoted to field exercise team meetings and off-site field work.

784. The Nonprofit Sector: Concepts and Theories. (A) Guo.

Can you imagine a world without the vitality and diversity of the nonprofit sector? What would it be like? Everything from health care to education, from serving the disadvantaged to protecting and restoring the environment, nonprofit organizations seem to have become an inseparable part of every aspect of our lives. So often they are taken for granted that we seldom pause and reflect on the roles and functions of these vital organizations in our community. This course will introduce you to the various roles that voluntary, philanthropic and nonprofit organizations play in American society. It will cover the theory, size, scope and functions of the sector from multiple disciplinary perspectives including historical, political, economic, and social views. The course also has a "hidden agenda." Take this class to see and discover what this agenda is!

785. Group Dynamics and Organizational Politics. (A) Smith.

Prerequisite(s): Enrollment in NPLD program or permission of the instructor.

This intensely experiential course, offered in the fall semester, is designed for those providing group and institutional leadership at any level of a human enterprise, managing work groups, serving on special task forces, chairing committees, teaching in classrooms, conducting support groups, facilitating groups in clinical settings, etc. Students will focus on two topics: (1) an in-depth understanding of group dynamics while they are in action, and (2) the organizational relationships between groups with power, groups that experience themselves as powerless and those caught

in the middle. With group and inter-group relations it is easy to see what went right or wrong in hindsight, or when observing from a distance, but tuning into these dynamics when caught up in them and taking constructive actions when it can have a meaningful impact, requires complex cognitive and emotional processing and use of multiple logics simultaneously. This educational format also explores the mysteries of counter-intuitive principles, such as "to grow, cut back," and "to strengthen self, augment other," are examined. The experiential events that are at the center of this learning occur over two full weekends, one in October and one in November.

786. Strategic Management and Leadership of Nonprofits. (A) Guo.

This course is designed to introduce students to the fundamental issues in accountability and governance and the administration and management in nonprofit organizations. Through research and analysis, students will understand multiple structures of accountability and the various stakeholders in nonprofits; understand the duties and dynamics of boards of directors in conjunction with other mechanisms of governance (e.g. chief executive officers, advisory boards, etc.); develop an understanding of management techniques and leadership skills for enhancing the effectiveness of nonprofit organizations. Students will be asked to think about the challenges of running nonprofit organizations in a comparative context, with cases drawn from both the U.S. and abroad.

The emphasis of this course is on acquiring operational skills. The course is designed for those who may have had years of experience managing other people and programs in the nonprofit sector but who want to develop a more systematic mastery of this challenge, as well as students from other sectors who aspire to a nonprofit leadership role.

787. Leadership for the New Economy. (A) Smith. Permission required; contact program office with request - adamsaks@sp2.upenn.edu.

This course is for individuals whose careers will call upon them to be visionary thinkers, sophisticated system thinkers and enlightened strategic thinkers. It is for women and men who will take transformative leadership actions that can be successfully implemented by people and groups at all levels of organizations and social enterprises. Recent events have shown that established leadership models need to be revitalized, given the

complexities of the contemporary world. Hence this course emphasizes the skills needed to engage in leadership acts relevant to the 21st century, competencies centered on building green technologies, creating sustainable energy, preserving the sanctity of water, fostering environmental-friendly policies, and constructing an economics predicated on principles of abundance rather than scarcity. Case studies of Lincoln, Gandhi, and Mandela will highlight that many of the key leadership lessons required for this era were elegantly crafted by these giants of history in conditions of extreme adversity not unlike the challenges of today. Key topics are decision making under conditions of uncertainty, building meaningful authority systems, using power creatively, harnessing the latent potential contained within conflicts and partnering with competitors and adversaries.

790. (NPLD590) Social Finance. (A)

Lamas. The course is open to students across the University. All graduate students who take this course must register under NPLD 790. All undergraduate students must register under NPLD 590.

Economic analysis and financial accounting are like languages: fluency comes with practice. In-class review of case studies (including in-person discussions with the representatives of diverse agencies and organizations featured in the case studies) will enable students to test and develop their capacity for applying conceptual tools and analytical methods to sometimes messy and always complicated, real-life situations.

The course objective is to develop theoretical understanding, critical judgment, and practical skills for sensitive and effective engagement with financial and economic matters of significance. Students will learn: (a) different ways of thinking about the economic foundations of social policy, (b) the basic terminology, tools, and methods for analyzing the financial statements of a wide range of organizations, and (c) accounting procedures for evaluating business, government, and organizational operations, policies, and practices.

This course is at once macro and micro in its orientation: It provides a conceptual basis - derived from mainstream and alternative perspectives - for thinking about the economic dimensions of human development and social policy, and it introduces a set of core competencies for leadership and financial management of organizations, including conventional enterprises, consulting firms, research institutions, governmental agencies,

philanthropies, cooperatives, and other third-sector organizations.

791. Leadership: Designing the Future. (A) Smith.

This experiential, highly interactive seminar is for those eager to serve in managerial/leadership positions of human systems that create/maintain the organizational and fiscal viability of public, non-profit or private enterprises, including their partnerships. Candidates in all Penn graduate programs are welcome, whether one's ambition is to generate sustainable livelihoods, renewable energy, wealth, clean water, viable environments, robotics, or quality services in fields such as education, health care, AI, or criminal justice. Course Participants are members of decision-making groups that run a computer-based, data-driven, future-creating, socio-economic simulation while synchronously studying the intra and inter-group dynamics inherent in all leadership actions.

Fall 2016 class meetings will be Wednesdays 10/26 and 11/2 from 5:30-8:30pm; Friday 11/4 at 6pm through Sunday 11/6 to 6pm; Friday 11/11 at 6pm through Sunday 11/13 to 6pm; Wednesday 11/16 from 5:30-8:30pm.

SM 792. Social Entrepreneurship. (B) Frumkin.

Social entrepreneurs are individuals with innovative vision seeking to accomplish important public purposes through the creative and aggressive mobilization of people and resources. Using academic theory and research on social entrepreneurship as a framework, student innovators learn to design, develop, and lead social change organizations of their own invention. Students turn their passion for changing the world into concrete plans for launching a venture. Over the course of the semester, we will cover a broad array of topics associated with social innovation and entrepreneurship, including defining the problem/opportunity, refining the mission/vision, developing market research and industry analysis, defining a financial and operating structure, assessing results and progress, and scaling an enterprise. This course is neutral on sector. Graduate students in any of Penn's graduate and professional schools who want to create social value through either nonprofit or for-profit ventures are invited to take the class and develop their ideas. The class will expose students to the process of getting an organization - regardless of sector - off the ground and running.

While this is a class on innovation and entrepreneurship, students do not need to

be committed to starting a venture upon graduation. The skills and tools contained in the course have wide applicability in the workplace. Being able to develop a coherent venture plan is great training for anyone who wants to work in government, philanthropy, or the business sector funding or managing existing organizations. The course attempts to convey a picture of what a well-considered and well-executed venture plan looks like with the goal of developing in students an appreciation for clear thinking in the pursuit of the creation of public value.

Students will work throughout the term on a plan for an organization that they devise, with assignments spread out throughout the term. Elements of a venture plan will be drafted through multiple class assignments, and students present formally and informally several times throughout the semester, receiving feedback from faculty, peers, social entrepreneurs, and invited guests. At the end of the term, students will assemble all the pieces they have worked on in the class, revise and hone these elements, and then put them into a coherent venture plan for their organization. This class is ideal preparation for the Dell Social Innovation Challenge (www.dellchallenge.org), which the instructor founded and which awards funds to launch new student social ventures. Entry into the Challenge is not required.

SM 793. Leadership Within & Across Boundaries. (B) Klein.

This spring semester course explores the key elements of individual leadership, team leadership, and cross sector leadership in a highly participative format. Through a series of individual assignments, class discussions, exercises, and simulations, students will explore and understand the potential for acts of leadership at every level (and in every organization) to create wealth and achieve positive social change. The course is taught by the Executive Director of the Wharton Graduate Leadership Program and is open to graduate students throughout the university as well as Penn undergraduate seniors.

In order to create, invoke, and evoke acts of leadership, we must understand ourselves, our teams and organizations, and our environments. From this integrated understanding, a set of possibilities emerge that shape the actions necessary to create positive social change. How can we leverage the abundance of resources available to individuals, teams, organizations, and collective networks? This course will explore leadership in five modules: individual leadership, team

leadership, organizational leadership, leadership across boundaries, and network leadership. This seminar style survey course will blend didactic, dialogic, and experiential methods to build an integrated framework for analysis that identifies and amplifies the opportunities or acts of leadership.

796. Philanthropy and Fundraising Tools for Managers. (B) Heisman.

Undergraduates need permission.

This course will review the everyday tools that nonprofit managers and development officers need to raise funds from individuals and other sources of private philanthropy. Last year, Americans gave approximately \$300 million and 83% of it was from individuals. The fundraising profession has created a body of knowledge in the past twenty years that can guide effective fundraising programs so that

charitable organizations can support their mission. The sessions will review the theory and practical techniques that development professionals use every day in large and small organizations including annual giving, major gifts, planned giving, cultivation of donors, making your case for support, the Seven Faces of Philanthropy, special events, and prospect research. There will also be discussions of philanthropic trends and current giving patterns. For those who are interested in nonprofit administration, these will be critical tools to understand.

SM 797. (URBS404) Philanthropy and the City. (B) Bauer/Goldman.

This course will focus on how urban communities are shaped by the nonprofit sector and the billions of philanthropic dollars that fuel their work. By bridging theory and practice, the class explores what

dynamics are at play to deliver vital services or programs in healthcare, education, the arts, community development, and other issues. The course will also focus on these important questions: (1) Whose responsibility is the public good? How is that responsibility shared by the public, private, and nonprofit sectors? and (2) Given that responsibility for the public good, which individuals and groups make the decisions about how to serve the public good? How are these decisions made, and who benefits from these decisions? Students will consider these questions in an interdisciplinary context that will bring a historical and philosophical perspective to the examination of the values and institutions that characterize the contemporary philanthropy and the nonprofit sector.

**SOCIOLOGY
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L/R 001. (AFRC002) Introduction to Sociology. (C) Society Sector. All classes. Imoagene, Jacobs, Lareau, Wilde, Zuberi.

We live in a country which places a premium on individual accomplishments. Hence, all of you worked extremely hard to get into Penn. Yet, social factors also have an impact on life chance. This class provides an overview of how membership in social groups shapes the outcomes of individuals. We will look at a range of topics from the organizational factors which promoted racial inequality in Ferguson, Mo to the refusal of (mostly elite) parents to vaccinate their children. The experience of women and men in the labor market -- and the social factors that lead women to earn less than men -- is another interesting topic taken up in the course. Who gets ahead in America? Course requirements include a midterm, research paper (five to six pages), final and recitation activities. Students are not expected to have any previous knowledge of the topic. Welcome to the course!

SM 002. Social Problems and Public Policy. (M) Bosk, Jacobs.

This course approaches some of today's important social and political issues from a sociological vantage point. The course begins by asking where social problems come from. The main sociological perspectives of Marx, Weber and Durkheim are developed in connection with the issues of inequality, social conflict and community. We then turn to the social construction of social problems by examining how various issues become defined as social problems. This involves a consideration of the role of the media, social experts and social movements. The last section of the course considers how social problems are addressed. Here we discuss the relative strengths and weaknesses of government programs and regulations versus market-based approaches. We also discuss the role of philanthropy and volunteerism. Finally, we consider the risk of unanticipated consequences of reforms. Along the way, we will consider a variety of social issues and social problems, including poverty, immigration, crime, global warming, and education.

L/R 003. Deviance and Social Control. (C) Society Sector. All classes. Bosk.

A sociological analysis of the origins, development, and reactions surrounding deviance in contemporary society. Topics include labeling theory, stigma, social organization, tradition, social power, crime, sexual deviance, drug use, and racism. Theoretical and methodological issues will be discussed and evaluated.

L/R 004. (GSWS004) The Family. (C) Society Sector. All classes. Harknett, Lareau.

Most men and women get married during their lifetimes. In addition, most men and women become fathers and mothers at some point. This class presents social science evidence on the family. For example, it shows how "greedy" workplaces, which require long work hours, create work-family conflicts for husbands and wives. The class also illuminates how men and women have different experiences within families. The lectures will also examine how economic inequality shapes family life. Students will have the opportunity to apply key concepts to daily life. They will also have an opportunity to read research on a topic of interest. All are welcome.

L/R 005. American Society. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Bosk. Also fulfills General Requirement in Society for Class of 2009 and prior.

What is American Society? The literary critic, Leslie Fielder once wrote, "...to be and American...precisely to imagine a destiny rather than to inherit one; since we have always been, insofar as we are Americans at all, inhabitants of myth rather than history..." The myths that we inherit form the basis of American civil religion. In this course we will explore the elements of the myth that form the basis of the civil religion as well as the facts on the ground that contradict our conceptions of American Society: Examples of mythic elements and their contradiction that we will explore are: A nation founded to pursue liberty and freedom yet allowed slavery, equality of opportunity and persistent structural inequality, and a welcoming of the Immigrant coupled with a suspicion of the outsider.

L/R 006. (AFRC006, ASAM006, URBS160) Race and Ethnic Relations. (C) Charles, Kao, Zuberi.

The course will focus on race and ethnicity in the United States. We begin with a brief history of racial categorization and

immigration to the U.S. The course continues by examining a number of topics including racial and ethnic identity, interracial and interethnic friendships and marriage, racial attitudes, mass media images, residential segregation, educational stratification, and labor market outcomes. The course will include discussions of African Americans, Whites, Hispanics, Asian Americans and multiracials.

007. (URBS265, GSWS007) Population and Society. (C) Society Sector. All classes. Flippen, Harknett, Kohler, Zuberi.

The course serves as an introduction to the study of population and demography, including issues pertaining to fertility, mortality, migration, and family formation and structure. Within these broad areas we consider the social, economic, and political implications of current trends, including: population explosion, baby bust, the impact of international migration on receiving societies, population aging, racial classification, growing diversity in household composition and family structure, population and environmental degradation, and the link between population and development/poverty.

SM 008. Introduction to Political Sociology. (M) Collins, Zuberi.

This course will introduce students to sociological approaches to politics, broadly understood. The class will begin by discussing the nature of power and authority, the rise of the nation-state and the significance of nationalism. Later topics will include social movements, urban political regimes, globalization and transnationalism, citizenship, revolutions, and the rise (and fall?) of welfare states.

010. Social Stratification. (M) Society Sector. All classes. Jacobs.

In this course we study the current levels and historical trends of inequality in the United States especially in cross-national comparative perspective. We discuss causes and consequences of inequality as well as various policy efforts to deal with inequality. Topics include intergenerational social mobility, income inequality, education, gender, race and ethnicity among others.

SM 011. (AFRC011, URBS112) Urban Sociology. (M) Flippen.

This course is a comprehensive introduction to the sociological study of urban areas. This includes more general topics as the rise of cities and theories urbanism, as well as more specific areas of inquiry, including American urbanism,

segregation, urban poverty, suburbanization and sprawl, neighborhoods and crime, and immigrant ghettos. The course will also devote significant attention to globalization and the process of urbanization in less developed counties.

L/R 012. (ANTH012, HIST012) Globalization. (B) Humanities & Social Science Sector. Class of 2010 & beyond. Guillen, Spooner.

This course analyses the current state of globalization and sets it in historicist in historical perspective. It applies the concepts and methods of anthropology, history, political economy and sociology to the analysis and interpretation of what is actually happening in the course of the semester that relates to the progress of globalization. We focus on a series of questions not only about what is happening but about the growing awareness of it and the consequences of the increasing awareness. In answering these questions we distinguish between active campaigns to cover the world (e.g. Christian and Muslim proselytism, free-trade agreements, democratization) and the unplanned diffusion of new ways of organizing trade, capital flows, tourism and remote interaction via the Internet. The body of the course deals with particular dimensions of globalization, reviewing both the early and recent history of each. The overall approach is historical and comparative, setting globalization on the larger stage of the economic, political and cultural development of various parts of the modern world.

The course is taught collaboratively by an anthropologist, an historian, and a sociologist, offering the opportunity to compare and contrast distinct disciplinary approaches. It seeks to develop a general social-science-based theoretical understanding of the various historical dimensions of globalization: economic, political, social and cultural.

027. (AFRC001) Introduction to Africana Studies. (D) Humanities & Social Science Sector. Class of 2010 & beyond. Charles, Zuberi.

The aim of this course is to provide an interdisciplinary examination of the complex array of African American and other African Diaspora social practices and experiences. This class will focus on both classic texts and modern works that provide an introduction to the dynamics of African American and African Diaspora thought and practice. Topics include: What is Africana Studies?; The History Before 1492; Creating the African Diaspora After 1500; The Challenge of Freedom; Race,

Gender and Class in the 20th Century; From Black Studies to Africana Studies; The Future of Africana Studies.

033. (STSC003) Technology & Society. (C) Society Sector. All classes. Staff.

Technology plays an increasing role in our understandings of ourselves, our communities, and our societies, in how we think about politics and war, science and religion, work and play. Humans have made and used technologies, though, for thousands if not millions of years. In this course, we will use this history as a resource to understand how technologies affect social relations, and conversely how the culture of a society shapes the technologies it produces. Do different technologies produce or result from different economic systems like feudalism, capitalism and communism? Can specific technologies promote democratic or authoritarian politics? Do they suggest or enforce different patterns of race, class or gender relations? Among the technologies we'll consider will be large objects like cathedrals, bridges, and airplanes; small ones like guns, clocks and birth control pills; and networks like the electrical grid, the highway system and the internet.

SM 041. (AFRC041, EALC014, GSWS041, URBS010) Freshman Seminars. (D) Staff. Freshman Seminars. Topics vary from semester to semester. See Freshman Seminar and Sociology websites for current offerings.

L/R 100. (HSOC100) Introduction to Sociological Research. (C) Armenta, Harknett, Koppel, Park, Smith, Wilde.

One of the defining characteristics of all the social sciences, including sociology, is a commitment to empirical research as the basis for knowledge. This course is designed to provide you with a basic understanding of research in the social sciences and to enable you to think like a social scientist. Through this course students will learn both the logic of sociological inquiry and the nuts and bolts of doing empirical research. We will focus on such issues as the relationship between theory and research, the logic of research design, issues of conceptualization and measurement, basic methods of data collection, and what social scientists do with data once they have collected them. By the end of the course, students will have completed sociological research projects utilizing different empirical methods, be able to evaluate the strengths and weaknesses of various research strategies,

and read (with understanding) published accounts of social science research.

L/R 101. (HSOC102) Bioethics. (C) Moreno.

This course will take an historical approach to the development of modern bioethics, which is the study of ethical issues in medicine and the life sciences. The first part of the course will be devoted to an introduction to the standard principles of academic bioethics and the way they have structured the field over the last 35 years. We will then consider topics to which the principles have long been applied, such as the care of gravely ill newborns, death and dying, and the ethics of research involving human subjects. The last part of the course will address more recent life sciences policy areas including genetics, cloning, stem cells, biodefense, and neuroscience in relation to national security. Throughout the course I will emphasize the interplay between the development of bioethics and its cultural context.

L/R 103. (ASAM001) Asian Americans In Contemporary Society. (M) Society Sector. All classes. Kao.

This class will introduce you to sociological research of Asian Americans and engage in the "model minority" stereotype. We begin by a brief introduction to U.S. immigration history and sociological theories about assimilation and racial stratification. The class will also cover research on racial and ethnic identity, educational stratification, mass media images, interracial marriage, multiracials, transracial adoption, and the viability of an Asian American panethnic identity. We will also examine the similarities and differences of Asian Americans relative to other minority groups.

105. INDUS REL & HUM RES MGMT. (C)

SM 110. The Rich and The Poor. (M) Armenta, Lareau.

Who is rich? Who is poor? This course examines how wealth and income are distributed in the United States, and how its distribution affects individuals, groups, institutions, and society. We will gain a fuller understanding of what social class is and discuss how it affects all aspects of life, including: quality of schooling, access to employment, child rearing, and even tastes, preferences, and identity. In addition to two midterms and a final exam, students will be responsible for completing several assignments and turning in a short research paper.

111. (HSOC111) Health of Populations. (C) Elo, Kohler.

This course is designed to introduce students to the quantitative study of factors that influence the health of populations. Topics to be addressed include methods for characterizing levels of health in populations, comparative and historical perspectives on population health, health disparities, health policy issues and the effectiveness of interventions for enhancing the health of populations. These topics will be addressed both for developed and developing world populations. The course will focus on specific areas of health and some of the major issues and conclusions pertaining to those domains. Areas singled out for attention include chronic diseases and their major risk factors, such as smoking, physical activity, dietary factors and obesity. Throughout the course, the focus will be on determining the quality of evidence for health policy and understanding the manner in which it was generated.

112. (AFRC112, GSWS114, URBS114) Discrimination: Sexual and Racial Conflict. (M) Society Sector. All classes. Madden.

This course is concerned with the structure, the causes and correlates, and the government policies to alleviate discrimination by race and gender in the United States. The central focus of the course is on employment differences by race and gender and the extent to which they arise from labor market discrimination versus other causes, although racial discrimination in housing is also considered. After a comprehensive overview of the structures of labor and housing markets and of nondiscriminatory reasons (that is, the cumulative effects of past discrimination and/or experiences) for the existence of group differentials in employment, wages and residential locations, various theories of the sources of current discrimination are reviewed and evaluated. Actual government policies and alternatives policies are evaluated in light of both the empirical evidence on group differences and the alternative theories of discrimination.

117. (GSWS117) Sociology of Work. (M) Jacobs, Leidner.

The material world is shaped and maintained through work, but so is the social world. How work is organized, allocated, and rewarded determines the opportunities people have for developing their own capacities, the kinds of ties they will have with others, and how much control they will have over their own lives.

We will consider various sociological perspectives on work and compare alternative ways of organizing work, with a focus on the contemporary United States.

118. Sociology of Bioethics. (C) Bosk.

The Sociology of Bioethics explores the sociological approach to bioethics. The Sociology of Bioethics is not a course in bioethics itself; rather than discussing the merits of a position (Is assisted suicide ethical?), we will ask how the debate has been framed, who is promoting which arguments, why the debate has arisen now, and how the issue is reflected in policy. In order to do so we will make use of social science research, along with philosophical treatises, legislation, and the popular media. The course is also not designed as a comprehensive treatment of the field; it will focus instead on choice topics that we will explore in depth. Our goal is to understand the nature of the bioethics profession and its modes of argumentation, and to explore the cultural, social, political, and professional underpinnings of bioethical debates.

L/R 120. (AFRC120) Social Statistics. (C) Allison, Charles, Guillot, Koppel, Park, Parrado.

This course offers a basic introduction to the application/interpretation of statistical analysis in sociology. Upon completion, you should be familiar with a variety of basic statistical techniques that allow examination of interesting social questions. We begin by learning to describe the characteristics of groups, followed by a discussion of how to examine and generalize about relationships between the characteristics of groups. Emphasis is placed on the understanding/interpretation of statistics used to describe and make generalizations about group characteristics. In addition to hand calculations, you will also become familiar with using PCs to run statistical tests.

122. (GSWS122) The Sociology of Gender. (C) Society Sector. All classes. Leidner.

Gender is an organizing principle of society, shaping social structures, cultural understandings, processes of interaction, and identities in ways that have profound consequences. It affects every aspect of people's lives, from their intimate relationships to their participation in work, family, government, and other social institutions and their place in the stratification system. Yet gender is such a taken for granted basis for differences among people that it can be hard to see the underlying social structures and cultural

forces that reinforce or weaken the social boundaries that define gender. Differences in behavior, power, and experience are often seen as the result of biological imperatives or of individual choice. A sociological view of gender, in contrast, emphasizes how gender is socially constructed and how structural constraints limit choice. This course examines how differences based on gender are created and sustained, with particular attention to how other important bases of personal identity and social inequality--race and class--interact with patterns of gender relations. We will also seek to understand how social change happens and how gender inequality might be reduced.

125. Classical Sociological Theory. (C) Collins.

This course will cover the founding classics of the sociological tradition including works of Tocqueville, Marx and Engels, Weber, Durkheim, Mauss, Simmel, and G.H. Mead. We will also examine how the major traditions have continued and transformed into theories of conflict, domination, resistance and social change; social solidarity, ritual and symbolism; symbolic interactionist and phenomenological theory of discourse, self and mind. This course satisfies the theory requirement for sociology majors.

126. Contemporary Sociological Theory. (C) Collins.

This course will cover the founding classics of the sociological tradition including works of Tocqueville, Marx and Engels, Nietzsche, Weber, Freud, Durkheim, Simmel, and G.H. Mead. We will also examine how the major traditions have continued and transformed into theories of conflict, domination, resistance and social change; social solidarity, ritual and symbolism; symbolic interactionist and phenomenological theory of discourse, self and mind.

128. Introduction to Demographic Methods. (C) Elo, Hannum, Smith.

This course provides an introduction to basic demographic concepts, data, indicators, and techniques. The course emphasizes hands-on applications of techniques in the analysis of population dynamics in the U.S. and elsewhere. Students will learn about the main sources of demographic data, including censuses, surveys, and vital statistics, and methods to estimate demographic processes (e.g. mortality, fertility). Students will leave the course with a solid grounding in a) the sources and limitations of demographic data; b) the construction of

basic demographic indicators; and c) appropriate use of basic demographic techniques to answer questions about human populations.

134. (NURS134) Health and Social Policy. (M) Society Sector. All classes. Aiken, Lake.

Health and Social Policy is an interdisciplinary course examining health care and social policy from domestic and international perspectives. The course is designed to engage students in critical thinking about social determinants of health, the organization and outcomes of health care systems and institutions, global health priorities and challenges, and the implications for public policy. Topics include the social inequalities and health; how organizational context of health care impacts outcomes; management of human resources in health nationally and globally; analysis of medical error, its causes, and consequences; review and critique of public policies in U.S. health care; and global health priorities and international health policy. Issues of current public debate in health and health care will provide a context for learning. There are no prerequisites. The course is intended for general lists as well as for those planning careers in health care.

135. (AFRC135) Law and Society. (C) Bosk, Fetni.

After introducing students to the major theoretical concepts concerning law and society, significant controversial societal issues that deal with law and the legal systems both domestically and internationally will be examined. Class discussions will focus on issues involving civil liberties, the organization of courts, legislatures, the legal profession and administrative agencies. Although the focus will be on law in the United States, law and society in other countries of Africa, Asia, Europe and Latin America will be covered in a comparative context. Readings included research reports, statutes and cases.

L/R 137. The Sociology of Media and Popular Culture. (C) Society Sector. All classes. Grazian, Wilde. Also fulfills General Requirement in Arts & Letters for Class of 2009 and prior.

This course relies on a variety of sociological perspectives to examine the role of media and popular culture in society, with a particular emphasis on the power of the mass media industry, the relationship between cultural consumption and status, and the social organization of leisure activities from sports to shopping.

Specific course topics include the branding of Starbucks, the rising importance of aesthetics and style in everyday life, and how young people use social media in the digital age.

SM 140. Social Conflict. (M) Collins.

Course will emphasize violent conflict, what leads up to it, and what determines whether it actually happens or not. Micro-sociological observations of conflict and violence as it appears in real-life observations, photos and videos. Topics include: fights and brawls; military combat; crowd and crowd-control violence; bullying and holdups; fair fights and dueling; carousing; sports violence; police violence; gangs violence; terrorist and clandestine violence; school and workplace rampages. Also considered will be ethnic cleansing and genocide; women in violence; and multiple contexts of rape. Escalation and de-escalation of conflict.

143. Modern Social Movements. (M) Staff.

Throughout modern times groups of people have come together in an attempt to change their social world. Their successes and failures teach us about society, organizations, and individuals. This course will examine case studies of historical and contemporary social movements. Using these case studies, this course will evaluate different approaches to understanding social movements, and investigate what these different approaches suggest about individuals, the society in which they live, and the potential for social change.

SM 152. (HSOC150) American Health Policy. (M) Linker.

This lecture course will introduce students to a broad range of topics that fall under the heading of American health policy. Its main emphasis will be on the history of health care in America from the U.S. Civil War to Obama care. The primary objective of the course will be to consider why the U.S., until very recently, remained one of the only industrialized nations to have a private, non-nationalized health care system. Some of the themes addressed include: private health insurance (such as Blue Cross/Blue Shield), industrial health and workmen's compensation, the welfare state (in Europe, Canada, and the U.S.), women's health, especially maternal and infant care programs, Medicare/Medicaid, the Clinton Health Plan of 1993, injured soldiers and the Veterans Administration.

154. (LALS155) Afro-Latinos in the U.S. Andino.

This course will explore the arrival, establishment and contributions of free and enslaved Africans in Ibero-America, the region presently known as Latin America, and the Spanish Speaking Caribbean. It will look at how these actors and their descendants known today as Afro-Latinos, shaped and built the foundations of Latin American society and culture throughout the centuries from colonial period to present. The course will seek to understand Afro-Latinos' agency and negotiations as intellectual contributors to the ideologies that led to independence and the creation of Latin American nations. Likewise, the course will also explore the accomplishments, controversies and tensions in race dynamics and politics, gender relations, socio-economic issues, among others factors that took and continue to take place as people of African descent negotiate their identity and struggle to uphold their space in Latin America and the U.S.A. today.

161. (STSC160) The History of the Information Age. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Staff.

Certain new technologies are greeted with claims that, for good or ill, they must transform our society. The two most recent: the computer and the Internet. But the series of social, economic and technological developments that underlie what is often called the Information Revolution include much more than just the computer. In this course, we explore the history of information technology and its role in contemporary society. We will explore both the technologies themselves--calculating machines, punched card tabulators, telegraph and telephone networks, differential analyzers, digital computers, and many others--and their larger social, economic and political contexts. To understand the roots of these ideas we look at the prehistory of the computer, at the idea of the post-industrial or information society, at parallels with earlier technologies and at broad historical currents in the United States and the world.

162. ENVIRONMENTAL SOCIOLOGY.

163. EDUCATIONAL INEQUALITY.

175. (HSOC275) Medical Sociology. Society Sector. All classes. Schnittker.

This course will give the student an introduction to the sociological study of medicine. Medical sociology is a broad field, covering topics as diverse as the

institution and profession of medicine, the practice of medical care, and the social factors that contribute to sickness and well-being. Although we will not explore everything, we will attempt to cover as much of the field as possible through four thematic units: (1) the organization and development of the profession of medicine, (2) the delivery of health-care, especially doctor-patient interaction, (3) the social and cultural factors that affect how illness is defined, and (4) the social causes of illness. The class will emphasize empirical research especially but not only quantitative research.

200. (CRIM200) Criminal Justice. (C) Society Sector. All classes. MacDonald.

This course examines how the criminal justice system responds to crime in society. The course reviews the historical development of criminal justice agencies in the United States and Europe and the available scientific evidence on the effect these agencies have on controlling crime. The course places an emphasis on the functional creation of criminal justice agencies and the discretionary role decision makers in these agencies have in deciding how to enforce criminal laws and whom to punish. Evidence on how society measures crime and the role that each major criminal justice agency plays in controlling crime is examined from the perspective of crime victims, police, prosecutors, jurors, judges, prison officials, probation officers and parole board members. Using the model of social policy evaluation, the course asks students to consider how the results of criminal justice could be more effectively delivered to reduce the social and economic costs of crime.

SM 221. Sample Survey Methods. (M) Hannum, Parrado.

This course provides an introduction to survey data collection. In meeting this objective, we examine the major planning tasks necessary for conducting surveys, including problem formulation, study design, questionnaire and interview design, pretesting, sampling, interviewer training and field management, code development and coding of data, and data cleaning and management. We critically explore the design of surveys and collection of data from epistemological and ethical perspectives. Students will leave the class with a solid understanding of the basic process of survey data collection and a familiarity with its strengths and weaknesses as a method of inquiry into human behavior.

SM 222. Field Methods of Sociological Research. (M) Armenta, Bosk, Koppel, Lareau.

This course is designed to introduce students to field methods in sociological research, with a focus on participant-observation and interviewing. During this course, students will read original research based on field methods and discuss their strengths, limitations, and ethical dilemmas. Most importantly, students will design their own research projects and become ethnographers and interviewers. Students will be guided through the fieldwork process from data collection to analysis, and will turn in multiple assignments and an original research paper.

233. (CRIM100) Criminology. (C) Society Sector. All classes. Adler.

This introductory course examines the multi-disciplinary science of law-making, law-breaking, and law-enforcing. It reviews theories explaining where, when, by whom and against whom crimes happen. Police, courts, prisons, and other institutions are also critically examined. This course meets the general distribution requirement.

235. (AFRC235) Law and Social Change. (C) Fetni.

Beginning with discussion of various perspectives on social change and law, this course then examines in detail the interdependent relationship between changes in legal and societal institutions. Emphasis will be placed on (1) how and when law can be an instrument for social change, and (2) how and when social change can cause legal change. In the assessment of this relationship, emphasis will be on the laws of the United States. However, laws of other countries and international law relevant to civil liberties, economic, social and political progress will be studied. Throughout the course, discussions will include legal controversies relevant to social change such as issues of race, gender and the law. Other issues relevant to State-Building and development will be discussed. A comparative framework will be used in the analysis of this interdependent relationship between law and social change.

238. (COMM203) Media Culture & Society in Contemporary China. (C) Yang.

This course studies contemporary Chinese media, culture, and society in the context of globalization. Major topics include Internet expression and censorship, mass media commercialization, entertainment media,

middle class and consumerism, environmental degradation, new forms of inequality, and civil society and popular protest. Taking a sociological approach, this course introduces methods and theories for analyzing media, institutions, inequality, and social change.

SM 239. (RELS201) Sociology of Religion. (M) Collins, Wilde.

Classic theory of religion in Durkheim and Weber, as well as contemporary theories of religious movements. Topics include ritual, magic, and mystical experience; religious ethics and salvation beliefs; the dynamics of cults, sects and mainstream churches; origins, expansion and decline of religions; religions and social class; religions and politics. The spectrum of religions in the contemporary United States will be examined, as well as historical comparisons.

L/R 252. (AFRC252) Human Rights. (C) Zuberi.

Sociology provides a unique way to look at human behavior and the world. We live in a world of diverse and conflicting values in which human rights and respect for human dignity have provided a platform for convergence. One important instance of such convergence has been the development of international norms prohibiting genocide, crimes against humanity, war crimes and ethnic cleansing. While there is agreement on fundamental principles as reflected in the Universal Declaration of Human Rights, differences in interpretation remain. A platform for convergence requires the engagement of a number of constituencies, in particular, state and inter-state entities, corporations, civil society and individuals, as well as the mutual reinforcement of their rights and duties. This course will critically cover the history, practice and social significance of human rights.

SM 254. (URBS253) Cities, Suburbs, Regions. (M) Black.

This course will explore the political, economic, social, and demographic forces impacting development patterns in metropolitan areas, with a particular focus on Philadelphia. We will examine the government policies, economic forces, and social attitudes that affect the way a region grows, and the impact of these forces on poverty, equity and segregation. Specific topics to be discussed include the factors that make a region competitive, the city's changing role in the region, the impact place has on opportunity, and approaches to revitalizing and improving communities.

259. (HSOC260) Social Determinants of Health. (M) Aronowitz.

Over the last century, we have witnessed dramatic historical change in population incidence and mortality, e.g. rising numbers of women diagnosed with breast cancer and dramatic declines in death from stomach cancer. There has also been a highly visible social patterning of health and disease, such as socio-economic disparities in AIDS, substance abuse, and asthma in the U.S. today or the association of breast cancer with affluence globally. This course will explore the way researchers, activists, politicians and others in different eras have made sense of these changes and patterns and have responded to them.

The course is historical and sociological. At the same time that we examine evidence and theories about the way poverty, affluence, and other social factors influence individual and population health, we will try to understand how social and historical forces have shaped how health and disease have been understood and categorized. In examining our current obesity "epidemic," for example, we will not only consider evidence and claims made about the causal role of market forces and changes in the built environment, but ask why (besides the fact that we are heavier) obesity has become such a visible and important medical and public health issue in the U.S. today.

SM 260. (STSC260) Cyberculture. (M) Staff.

Computers and the internet have become critical parts of our lives and culture. In this course, we will explore how people use these new technologies to develop new conceptions of identity, build virtual communities and affect political change. Each week we'll see what we can learn by thinking about the internet in a different way, focusing successively on hackers, virtuality, community, sovereignty, interfaces, algorithms and infrastructure. We'll read books, articles, and blogs about historical and contemporary cultures of computing, from Spacewar players and phone phreaks in the 1970s to Google, Facebook, World of Warcraft, WikiLeaks, and Anonymous today. In addition, we'll explore some of these online communities and projects ourselves and develop our own analyses of them.

SM 264. (URBS264) Poverty, Race and Health. (M) Elo.

This course is designed to introduce students to current literature on race/ethnic difference in health and mortality in the United States, covering such topics as

explanations for why some race/ethnic groups fare better than others, how inner city poverty and residential segregation may contribute to racial/ethnic differences in health outcomes, and health of immigrants versus native-born populations. Current policy debated and recent policy developments related to health are also briefly discussed. The course is organized as a seminar with a combination of lectures and class discussions.

266. (LALS235) Latinos in United States. (C) Parrado.

This course presents a broad overview of the Latino population in the United States that focuses on the economic and sociological aspects of Latino immigration and assimilation. Topics to be covered include: construction of Latino identity, the history of U.S. Latino immigration, Latino family patterns and household structure, Latino educational attainment, Latino incorporation into the U.S. labor force, earnings and economic well-being among Latino-origin groups, assimilation and the second generation. The course will stress the importance of understanding Latinos within the overall system of race and ethnic relations in the U.S., as well as in comparison with previous immigration flows, particularly from Europe. We will pay particular attention to the economic impact of Latino immigration on both the U.S. receiving and Latin American sending communities, and the efficacy and future possibilities of U.S. immigration policy. Within all of these diverse topics, we will stress the heterogeneity of the Latino population according to national origin groups (i.e. Mexican, Puerto Rican, Cuban, and other Latinos), as well as generational differences between immigrants and the native born.

SM 270. (URBS270) The Immigrant City. (M) Society Sector. All classes. Hanson, R. Scott.

Immigration is among the most important yet controversial forces shaping cities, regions, and neighborhoods. The diversity of immigrant and receiving communities means that the dynamics and impacts of migration are varied and complex. This course examines the development of immigrant and receiving communities in the United States. It surveys public policy and community and economic development practices related to migration at the local, regional, national, and transnational scale. Class readings, discussions, and visits to Philadelphia's immigrant neighborhoods explore themes including labor markets, housing experiences,

political mobilization, civil society, cultural preservation, and the built environment.

The first half of the course surveys migration and community formation among a broad range of ethnic groups in different parts of the city and suburbs, mainly through history, sociology, and geography; the second half focuses on specific policy and community and economic development initiatives. Ultimately, the class aims to provide students with 1) a broad knowledge of immigration and its impacts on cities and regions; 2) an in-depth understanding of urban policies and institutions working on immigration in U.S. cities; and 3) familiarity with community and economic development strategies for migrant and receiving communities.

275. (HSOC275) Medical Sociology. (C) Schnittker.

This course will give the student an introduction to the sociological study of medicine. Medical sociology is a broad field, covering topics as diverse as the institution and profession of medicine, the practice of medical care, and the social factors that contribute to sickness and well-being. Although we will not explore everything, we will attempt to cover as much of the field as possible through four thematic units: (1) the organization and development of the profession of medicine, (2) the delivery of health-care, especially doctor-patient interaction, (3) the social and cultural factors that affect how illness is defined, and (4) the social causes of illness. The class will emphasize empirical research especially but not only quantitative research.

277. (HSOC277) Mental Illness. (C) Schnittker.

This course is designed to give a general overview of how sociologists study mental illness. We will be concerned with describing the contributions of sociological research and exploring how these contributions differ from those of psychology, psychiatry, and social work. This overview will be done in three parts: we will discuss (i) what "mental illness" is, (ii) precisely how many Americans are mentally ill, (iii) how social factors (e.g. race, gender, class) and social arrangements (e.g. social networks) lead to mental illness, and (iv) how we as a society respond to and treat the mentally ill. Throughout the course, we will be concerned with uncovering the assumptions behind different definitions of mental health and exploring their political, social, and legal implications.

280. (EALC048) Social Issues in Contemporary China. (C) Hannum.

China's transition to a market-oriented society has effected fundamental changes in the lives of citizens. This class will consider pressing social concerns that China must struggle to address as it continues down the path of market reforms. Using topical problems to illustrate broader issues of social inequality along lines of gender, ethnicity, residence status, and poverty status, we will consider questions such as the following: How are women and men faring differently in China's new labor market and workplaces? Are rural peasants and the emerging underclass of urban laid-off workers being left behind by market transition? How are minorities faring in China's transition? How does the emerging digital divide play into the dichotomies of east-west and urban-rural in China? What is the plight of millions of "floaters" migrating into China's cities, with minimal legal rights and protections? Can China's rapidly-changing public health system handle emerging diseases such as SARS and AIDS? How has the one-child policy affected women, children, and society in China? Who are the "missing girls" of China, and what are the social implications of their disappearance? How was the welfare of children and adolescents changed with market reforms? The class will combine lectures, academic readings, case studies, films, and discussions.

SM 282. (STSC288) Knowledge and Social Structure. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Kuklick.

This course focuses on science in various institutional contexts and discusses situations ranging widely over time and place. We consider examples drawn from the seventeenth century to the present, the social settings in which science is found (e.g. the prince's court, the society of amateurs, the university, the academic laboratory, industry and in the field, outdoors), and the effects of changes in publishing and patronage. For comparative purposes, we also consider such phenomena as the symphony orchestra, the art market, motion pictures, and literature. Assigned authors range from time-honored authorities, such as Robert Merton, to science writers for *The New Yorker*.

299. Independent Study. (C) Staff.

Directed readings and research in areas of sociology. Permission of instructor needed.

SM 300. Thesis Workshop. (C)

Leidner. Prerequisite(s): SOCI 100.

The purpose of this course is to guide senior sociology majors in writing a research proposal for a senior honors thesis. Students will learn about various research approaches, how to write a focused literature review, and kinds of data necessary to answer a wide variety of research questions, including their own. Throughout the course, students will work on designing a research question, generation researchable hypotheses, and coming up with a design for their proposed study. The final paper for this course will be a research proposal that is the basis for students' independent research project. This course satisfies the research requirement for sociology majors and is designed primarily for seniors who are planning to write an honors thesis.

SM 322. (GSWS322) Advanced Topics in Gender and Sexuality Studies. Staff.

Violence against Women in Conflict: Sexuality, Terrorism, and Human Rights
This course explores how women's experiences of violence in conflict are guided by traditional patriarchal views of femininity, and further how this violence impacts their human rights. Through academic texts, documents produced by the U.N. and NGOs globally, and documentaries, we will consider women's experiences of violence in contexts such as: how rape is used to decipher the borders and boundaries of emerging nations, as in the 1994 genocide in Rwanda; the highly complex experiences of women suicide bombers in the Israeli-Palestinian and Sri Lankan conflicts; the relationship between domestic violence in the private/home space and the violence of war in the public space; and sexual violence against women in the U.S. military.

SM 330. (AFRC387, ITAL300) Special Topics. (M)

SM 340. (AFRC387) Special Topics AFRC Stud. (M)

SM 380. (CRIM280) Neighborhood Dynamics of Crime. (B) Loeffler.

Crime varies in time, space and populations as it reflects ecological structures and the routine social interactions that occur in daily life. Concentrations of crime can be found among locations, with antisocial activities like assaults and theft occurring at higher rates because of the demographic make-up of people (e.g. adolescents) or conflicts (e.g. competing gangs), for reasons examined by ecological

criminology. Variation in socio-demographic structures (age, education ratios, and the concentration of poverty) and the physical environment (housing segregation, density of bars, street lighting) predicts variations between neighborhoods in the level of crime and disorder. Both ethnographic and quantitative research methods are used to explore the connections between the social and physical environment of areas and antisocial behavior.

398. Senior Research. (C) Sociology Faculty.

Senior Research is for senior sociology majors only. Students are assigned Sociology advisors with assistance from Undergraduate Chair.

399. Senior Thesis. (C) Sociology Faculty.

Senior Thesis is for senior sociology majors only. Students are assigned advisors with assistance from Undergraduate Chair.

SM 410. (CRIM410) Research Seminar in Experiments in Crime and Justice. (C) Loeffler.

This seminar focuses on examining data from experiments in criminology including: randomized controlled trials of criminal justice policies, "natural" experiments in crime, and other quasi-experimental studies. A series of experiments conducted by Penn scholars and elsewhere will be examined. This seminar also guides criminology majors in writing a research proposal for their thesis. Students will learn about how to formulate a research question, develop a review of the literature, and how to apply necessary empirical methods. The final paper for this course will be a research proposal that can serve as the basis for the student's senior thesis and to satisfy the senior capstone requirement. Readings will come from the disciplines of criminology, sociology, psychology, economics, and urban planning.

SM 411. (CRIM411) Field Observations in Criminal Courts. (C) Staff.

The course will serve as an introduction both to qualitative research and to an understanding of the routine workings of the courts in Philadelphia. After a brief discussion of the theoretical underpinnings and practical techniques of ethnography, students will undertake supervised field projects leading to the writing of 5000 words long, examined research reports about different aspects of the social organization of the courthouse and court room.

SM 420. (URBS420) Perspectives on Urban Poverty. (C) Fairbanks.

This course provides an interdisciplinary introduction to 20th century urban poverty, and 20th century urban poverty knowledge. In addition to providing an historical overview of American poverty, the course is primarily concerned with the ways in which historical, cultural, political, racial, social, spatial/geographical, and economic forces have either shaped or been left out of contemporary debates on urban poverty. Of great importance, the course will evaluate competing analytic trends in the social sciences and their respective implications in terms of the question of what can be known about urban poverty in the contexts of social policy and practice, academic research, and the broader social imaginary. We will critically analyze a wide body of literature that theorizes and explains urban poverty. Course readings span the disciplines of sociology, anthropology, urban studies, history, and social welfare. Primacy will be granted to critical analysis and deconstruction of course texts, particularly with regard to the ways in which poverty knowledge creates, sustains, and constricts meaningful channels of action in urban poverty policy and practice interventions.

SM 430. (AFRC431, AFRC630, COMM496, SOCI630, URBS403) Advanced Topics in Sociology. (M) Staff.

Upper level advance topics vary from semester to semester.

SM 431. (HIST233, LALS431) Modern Mexican Society. (M) Staff.

An introduction to social, political, and economic organization of modern Mexico. This course traces to evolution of Mexico's fundamental societal institutions from their birth during the Mexican Revolution of 1910, through their flowering during the 1950's and 1960's, to recent changes under neoliberal administrations. The course ends with a discussion of Mexico's transition to democracy and the election of the first opposition President in 80 years.

SM 435. (URBS457) Globalization & The City. (C) Chattaraj.

Over the past two decades, the public imagination has been gripped by the concept of globalization. Scholars, corporations, advertisers and government officials have latched onto this idea as a defining feature of our current era. These various constituencies use globalization not only to account for epochal shifts in our economy and society, but also to justify new types of business strategy and public

policy. This course will examine three interlinked dimensions of globalization: Global economic processes (e.g. the transnational operations of multinational firms that have given rise to a new international division of labor); cultural globalization (e.g. the spread of American brands like Coca Cola, Nike and Hollywood films), and political globalization (e.g. the rise of supranational organizations like the IMF, World Bank and WTO that promote the idea of free markets).

Moreover, we will study globalization in the context of cities because, given their centrality to globalization processes, it is in cities that we can best understand how globalization takes place. In cities, we can study the global economic processes that restructure urban space, giving rise to new financial districts, international art exhibits and post-modern architecture and entrepreneurial strategies that seek to elevate cities to world city status. The course will examine these processes in a comparative light, contrasting urban globalization processes in Europe and North America with those in Latin America, Asia and Africa.

SM 436. (URBS426) Culture, Arts and Media in Urban Context. (M) Grazian.

The purpose of this academic-based service learning course is to examine the development of art, culture and media in cities, with an emphasis on how cultural organizations operate in the urban environment. Through classroom readings and discussions, students will explore a variety of sociological approaches to the analysis of urban culture and the creative economy, local arts and entertainment, new media technology and public policy. In addition, students will conduct several hours per week of community service in one of a variety of local nonprofit arts and other cultural institutions in Philadelphia.

SM 438. (URBS438) SOCIAL SCIENCE STUDIO: IMMIGRANTS MAKE THE CITY. (M) Choudhury, Kushanava.

How do American cities grow? Studies of urban transformation have focused on anchor institutions, the growth model of big business-generated employment, and "creative class" gentrification. After decades of decline, many major cities like Philadelphia are seeing gains in population again, as well as new commercial activity and street life, spurred by the influx of new immigrant communities. Yet few scholars have asked: What role do immigrants play in the current revival of the American metropolis?

In this Social Science Studio course, 16 students will work collaboratively as in a design studio to conduct research that can answer this important social-scientific question. Students will work on independent projects that engage multiple methods and fields to produce new types of knowledge. They will be introduced to multiple methods drawn from architecture, planning, anthropology and political science, including mapping, interviewing, fieldnotes, socio-economic surveys, sketching, photography and web design to develop independent projects. No prior knowledge is required but students with experience in GIS, STATA, photography, drawing or web design are encouraged to apply.

450. (HIST455, PPE 475) ONLINE TOPICS. (C)

SM 453. (URBS453) Metropolitan Growth and Poverty. (C) Madden.

This course analyzes the role of metropolitan regions in the U.S. and global economies, including the sources of metropolitan productivity, the ways that metropolitan structures affect residents, and analyses of public policy in metropolitan areas. The economic, political, and social forces that have shaped World War II urban and regional development are explored, including technology, demography, and government. Special attention is paid to how metropolitan change affects residents by income and race. Topics include: gentrification, schools, suburbanization, sprawl, metropolitan fragmentation, concentration of poverty, race, and various economic revitalization initiatives.

SM 460. (AFRC420, AFRC620, SOCI660) Advanced Topics in Africana Studies. (M) Staff.

Advanced Topics in Africana Studies: The Sociology of W E B Du Bois; GIS for Social Science Research

SM 473. (URBS473) Community Organizing: History and Theory. (M) Becker.

Power is an ability to create change. Without access to power that might otherwise come from political, financial or personal networks, community organizing can often serve as the only viable source of power for the oppressed. Although organizing became a partisan buzzword during the 2008 presidential campaign, it is firmly rooted in the democratic tradition. Organizing campaigns have played a central role in US history, most notably as the foundation of the Civil Rights movement. This course will integrate the

history and theories of community organizing so that each student will have the foundation to develop a transformational praxis to create change in their own communities. Focused analysis of the course material, case study reviews, guest speaker presentations, inquiry-based assessments and problem-posing methods rooted in the student's own context will serve as the primary means of development.

SM 488. (GSWS488) Culture, Sexuality and Global Health. (A) Fiereck.

What, if anything, is global in "global health"? Whatever this field might be, it is more often than not actively produced through a range of conflicting ethical commitments of multiple expert cultures, social movements and laypersons. This course explores critical themes in the historical and sociocultural study of global health. Students will engage a number of disciplinary perspectives within the social sciences including the history, sociology, and anthropology of science, and we will pay particular attention to feminist, queer, and postcolonial science studies perspectives. Throughout, we will consider how both global and local cultural transformations have shaped the emergence of this multidisciplinary field of study. To understand the complexity of global health, students will engage with a number of theoretical and ethnographic texts while questioning its stability and coherence as a self-same object given its interdisciplinary character. In doing so, we will explore the ways in which diverse sets of interests converge to constitute as well as contest the ever-shifting boundaries of global health.

SM 524. (DEMG524) Advanced Topics in the Sociology of the Family. (M) Staff.

The course will review a series of theoretical issues in the sociology of the family and examine major empirical studies in which theoretical advances have been made. Special attention will be given to work that has a historical and comparative perspective. Opportunities will be provided for original research on the family.

SM 530. (AFRC533, LALS530) Advanced Selected Topics. (C) Staff.

Topics vary from semester to semester. Courses offered in the past were Social Movements and Social Change; Critical Race Theory; Conducting Family Research; Mistakes, Errors, Accidents and Disasters; Sociology of Jewish Bioethics.

L/R 535. (DEMG535) Quantitative Methods in Sociology I. (A) Allison, Smith. Prerequisite(s): Basic algebra.

This course is an introduction to the practice of statistics in social and behavioral sciences. It is open to beginning graduate students and--with the permission of the instructor--advanced undergraduates. Topics covered include the description of social science data, in graphical and non-graphical form; correlation and other forms of association, including cross-tabulation; bivariate regression; an introduction to probability theory; the logic of sampling; the logic of statistical inference and significance tests. There is a lecture twice weekly and a mandatory "lab."

L/R 536. (DEMG536) Quantitative Methods in Sociology II. (B) Allison, Kohler, Park, Schnittker, Smith. Prerequisite(s): SOCI 535 or permission of instructor.

As the second part of a two-semester sequence, this graduate course focuses on regression analysis as used in social science research. In particular, we discuss features and assumptions of linear regression and logistic regression models. We learn how to apply regression models to real social science data using Stata and how to interpret the results.

SM 541. (DEMG541, GSWS532) Gender, the Labor Force, and Markets. (M) Madden.

Drawing from sociology, economics and demography, this course examines the causes and effects of gender differences in labor force participation, earnings and occupation in the United States and in the rest of the developed and developing world. Differences by race, ethnicity and sexual preference are also considered. Theories of labor supply, marriage, human capital and discrimination are explored as explanations for the observed trends. Finally, the course reviews current labor market policies and uses the theories of labor supply, marriage, human capital and discrimination to evaluate their effects on women and men.

SM 542. (GSWS542) Work and Gender. (M) Leidner.

This seminar examines the relevance of gender to the organization and experience of paid and unpaid work. Combining materialist and social constructionist approaches, we will consider occupational segregation, the relation of work and family, gender and class solidarity, the construction of gender through work, race and class variation in work experiences, and related topics.

SM 546. (GSWS546) Feminist Theory. (M) Leidner.

Feminist activists and academics have posed fundamental challenges to existing approaches to social theory. This seminar explores the development of feminist theory since the 1960s, focusing on approaches that have the most relevance for social science. The relations among feminist theorizing, research, and activism will be emphasized.

SM 550. (DEMG550) Social Inequality. (M) Jacobs.

This course will study social stratification primarily in contemporary societies. We will examine both the distribution of social rewards as well as process for the allocation of these rewards. Stratification theory and research on social mobility will be considered. Topics include the influence of education, race and gender, and structural and organizational factors on individual success. Acquaintance with stratification theory and quantitative methods would be helpful but not required.

SM 553. (URBS553) Field Methods in Qualitative Research. (C) Bosk, Grazian, Lareau.

This course is designed to introduce graduate students to basic skills and concepts in ethnographic field research, including participant observation, interviewing, field documentation, and the scholarly presentation of qualitative data. Students will learn to apply these skills and concepts through an assigned set of exercises in concert with a semester-long project based on intensive fieldwork at a research site of their choosing. In addition, we will examine exemplars of published fieldwork in both classical and contemporary sociology.

SM 555. Pro-Seminar in Sociological Research. (A) Hannum, Jacob, Kao, Leidner, Smith.

In the non-credit seminar students will be introduced to key areas in sociological research, and a set of professional skills necessary to navigate graduate school and a successful academic career. Students will also be introduced to faculty and resources available at Penn. This course is required for all first-year graduate students in Sociology

SM 556. Pro-Seminar in Sociological Research II. (C) Collins, Grazian, Hannum, Park, Schnittker, Smith, Wilde.

This graduate seminar for first-year graduate students will be a two-semester course covering the major subfields of sociology -- their classical and

contemporary theories, current methods and substance.

SM 561. (COML562) Class Cultures and Historical Change. (M) Collins.

Culture as lifestyle, therefore as the immediately visible aspect of social class, as well as the status groups that may cut across class. Examines micro-sociological evidence (including photos and other images; and literary and other textual sources) of how class and status are performed in everyday life. Goffmanian and subsequent theory of interaction rituals applied across long-term historical changes, and their causes. Topics include Norbert Elias's theory of civilizing process; stratification in patrimonial/aristocratic societies; the modern shift to bureaucracy plus private households; the effects of democratization, social movements, wars, revolutions, and status leveling; informalization and antinomian counter-cultures; youth cultures and cults of mass entertainment. Concluding with what electronic communications are doing to the future of class cultures and self-presentation.

SM 570. (AFRC571) VISUALIZING W. E. B. DUBOIS. (M) Zuberi.

This seminar will focus on a project that views history as a result of our contemporary society in which biographical truths are constantly shifting. So the historical biographers write about the way they remembered and visualize the past, and not about the way that it happened. We will take Du Bois's biography in his own words and interrogate his narrative with the visual narratives of his life and influence produced by others. "Visualizing W.E.B Du Bois" focuses on photographic, film, and video representations intended to present some aspect of Du Bois's reality, primarily for the purposes of instruction or maintaining a historical record. Such projects include photos, materials originally shot on film stock, and digital images that can be either displayed in a book or magazine, and moving images made into a film or video for a TV show or released for screening in cinemas, or other broadcast mediums like YouTube and Vimeo.

572. Health Care and Social Policy. (M) Aiken.

This course is an area study or survey of social policy issues in contemporary health care. Topics include social contexts of health care and health policy; the organization and financing of health services; the health professions; health and illness over the life cycle; achieving equitable access to health services; the

interface between health and social services. Health problems of national significance will be addressed including infant mortality, teenage pregnancy, AIDS, the chronically mentally ill and homeless, and health impaired elderly.

SM 595. (AFRC595) Media, Culture, and Society. (M) Staff.

This course will begin by surveying approaches to culture that are characteristic of general theory in sociology. We will then deal in depth with theories of recorded culture that have developed within the sociology of culture and related disciplines, including the role of the media in constructing social reality, the interpretation and reception of texts, recorded culture and the creation of symbolic boundaries, the social construction of art, the organization of cultural industries, sacred symbols and political integration, and the relationship between culture and the state.

SM 596. (ASAM590, SOCI496) Sociology of Education. (M) Kao.

This graduate seminar will introduce students to some of the key theoretical and empirical work in the sociology of education. We will examine how schools work to maintain or alleviate inequality, and focus on differences in educational achievement and attainment by race, ethnicity, immigrant status, class, and gender. We will review work on the educational experiences of youth from early childhood to young adulthood.

SM 597. MLA Proseminar.

SM 601. Contemporary Social Theory. (M) Collins.

This is a graduate-level seminar structured around the main theoretical debates of contemporary sociology, including the interplay of rationality and emotion, the relationship between structure and agency, the nature of power, and the role of chance and contingency. In considering alternative positions on these debates, we will encounter the major theorists of the past fifty years, including Parsons, Merton, Goffman, Homans, Schutz, Coleman, Bourdieu, Luhmann, Habermas, Collins, and Giddens. Requirements include intensive primary source reading, writing, and participation. The course assumes, and does not provide, prior familiarity with the main theoretical perspectives, and thus does not substitute for the undergraduate theory course (Soci 126)

SM 602. (COML610) Proseminar in Classical Sociology. (C) Collins.

This course will cover the founding classics of the sociological tradition including works of Tocqueville, Marx and Engels, Nietzsche, Weber, Freud, Durkheim, Simmel, and G.H.Mead. We will also examine how the major traditions have continued and transformed into theories of conflict, domination, resistance and social change; social solidarity, ritual and symbolism; symbolic interactionist and phenomenological theory of discourse, self and mind.

SM 603. (DEMG707) Master's Research in Sociology. (C) Bosk, Grazian, Jacobs, Kao, Lareau, Leidner, Park, Schnittker.

This graduate course is intended to be helpful to students as they produce an MA thesis. The course is structured to provide social support and feedback as students move through the stages in the development of a project (i.e. data analysis, review of the literature, development of a thesis, and revision). Students should begin the semester with a data set in hand; additional data analysis will occur during the term. (In some cases, students may be finishing their data collection.) In addition, the course is intended to provide professional development opportunities for students by providing "insider" information about the publication process. Students will be given examples of journal review (including reviews that reject a paper), copies of papers as they move through the revision process, and guidelines for producing a publishable piece of work. The goal is for students to produce a manuscript that can be submitted for publication in the near future. This is a required course for second year graduate students in Sociology.

604. (DEMG604) Methodology of Social Research. (C) Harknett, Smith, Wilde, Zuberi.

This course will give students familiarity with the common research methods social scientists use to conduct research. Ethnographic, interview, survey, experimental and historical/comparative research methods will be covered. Four themes will be explored: 1) the basics of solid research design, 2) the various advantages and disadvantages of each method, 3) when the use of a method is appropriate or inappropriate for the research question, and 4) how to evaluate researchers' claims on the basis of the evidence they present. These themes will be explored by reading examples of and conducting exercises designed to give students hands-on experience in each of the

methods. Students will conduct the exercises on a topic of their choice, which together will culminate in their final paper. The course is required and restricted to second year students in sociology and demography.

607. (DEMG607) Introduction to Demography. (M) Staff.

A nontechnical introduction to fertility, mortality and migration and the interrelations of population with other social and economic factors.

609. (DEMG609) Basic Methods of Demography. (C) Elo, Guillot, Smith.

The course is designed to introduce students to basic concepts of demographic measurement and modeling used to study changes in population size and composition. The course covers basic measures of mortality, fertility and migration; life table construction; multiple decrement life tables; stable populations; population projections; and age patterns of vital events. Students will learn to apply demographic methods through a series of weekly problem sets.

611. (DEMG611) Structural Equation Models. (M) Allison.

Statistical modeling with multiple equations and latent variables. The first part of the course will focus on linear models that could be estimated with any of the well-known SEM programs (e.g., LISREL, EQS, or Amos). Both Mplus and SAS will be used exclusively in this part of the course. The second part will focus on Mplus models for variables that are categorical, count, or censored. Maximum likelihood methods for missing data will also be covered.

612. (DEMG612) Categorical Data Analysis. (M) Allison, Smith.

This course deals with techniques for analyzing multivariate data which the dependent variable is a set of categories (a dichotomy or polytomy). Topics will include linear probability models, logit (logistic) regression models, probit models, logit analysis of contingency tables, cumulative logit and probit (for ordinal data), multinomial logit, conditional logit (discrete choice), unobserved heterogeneity, log-linear models, square tables, response-based sampling, and repeated measures. Methods will be illustrated using the Stata System. There will be several assignments using Stata to analyzedata provided by the instructor.

613. (DEMG613) Event History. (M)

Allison. Prerequisite(s): SOCI 536 or equivalent.

An applications-oriented course on statistical methods for the analysis of longitudinal data on the occurrence of events, also known as survival analysis, failure-time analysis, hazard analysis or duration analysis. Emphasis on regression-like models in which the risk of event occurrence is a function of a set of explanatory variables. Topics include accelerated failure-time models, hazard models, censoring, Cox regression models, time-dependent covariates, competing risks, repeated events, unobserved heterogeneity, discrete-time methods.

SM 617. (AFRC617) Theories of Racial and Ethnic Differentiation. (M)

Charles.

This course provides an overview of prominent theories and theorists of race and ethnicity, and is concerned with: 1) Understanding the nature and persistence of race and ethnicity as meaningful social groupings in contemporary American society, and 2) Explaining the social significance of these group identities--that is, how these groupings are related to social stratification, to socio-cultural relations, and to the political and economic dynamics in our society.

SM 620. Doctoral Seminar in Sociological Research II. (C)

Grazian, Hannum, Jacobs, Schnittker, Wilde. Prerequisite(s): Third year graduate students.

This course is intended to aid in the selection, framing, writing and revising of sociological dissertation proposals. It is also intended to provide a forum for the presentation of dissertation research in progress. The goal is to provide a forum for the acquisition of professional socialization in sociology. We will discuss the framing of research questions, the design of research strategies, and the writing of dissertation proposals. We will discuss the process of submitting manuscripts for conferences and journals, preparing a curriculum vitae, job search strategies, and preparing for effective colloquium presentations. We will also review articles currently under review at the American Sociological Review. It is expected that third year graduate students in Sociology will enroll in this class.

621. (DEMG621) Mortality. (M) Elo, Kohler.

The course focuses on the description and explanation of health and mortality in human populations and their variability

across several dimensions such as age, time, place, social class, race, etc. The course includes general theories of health, mortality and morbidity, investigations of mortality and related processes in developing and developed countries, and discussions of future mortality trends and their implications for individual lives and the society at large.

SM 622. (DEMG622) Fertility. (M) Kohler, Smith.

The biological, social and demographic factors explaining the levels, trends and differentials in human fertility. Data, measures, and methods used in the context of the more and the less developed countries, with an emphasis on the historical and current course of the fertility transition.

SM 623. (AFRC623, URBS623) Workshop in Urban Ethnography. (M) Staff.

The ethnographic and sociological interpretation of urban life. Conceptual and methodological issues will be thoroughly discussed. Ongoing projects of participants will be presented in a "workshop" format, thus providing participants the opportunity of learning from and contributing ethnographic work in progress. Selected ethnographic works will be read and assessed.

SM 630. (AFRC431, AFRC630, DEMG630, SOCI430) Advanced Special Topics. (C) Staff.

Topics vary from semester to semester. Course titles include: Race, Colonialism & Methods; Mistakes, Errors, Accidents & Disasters, Graduate Research Practicum, Sociology of Violence: Gangs & Organized Crime.

SM 633. (DEMG633) Population Processes I. (A) Elo, Guillot, Parrado, Schnittker.

This is one of two courses that serve as an introduction to core areas of demography and important developments in the field. Population Processes I introduces students to broad set of issues in health, mortality, and aging. Readings cover overviews of major topics as well as recent approaches to the subject. Attention is focused on description and explanation of variation in health across time, space and social groups. One consequence of mortality decline is population aging. We will cover some of its implications for individuals, families and societies.

SM 634. (DEMG634) Population Processes II. (B) Flippen, Harknett, Kohler, Parrado, Smith.

Population Processes II is part of a two-course sequence designed to introduce students to the core areas of demography (fertility, mortality, and migration) and recent developments in the field. PP II is divided into two parts. The first focuses on family demography and the biological, social and demographic factors explaining levels, trends, and differentials in human fertility transition with an emphasis on the historical and current course of fertility transition in developed and developing countries. The second part of the course provides a comprehensive review of theories and research on international migration. Readings examine patterns and processes of global migration during the classic age from 1800-1914 as well as during the postwar period from 1945 to the present. The course also covers a history and evaluation of immigration policies around the world, and devotes significant attention to theoretical and empirical perspectives on immigrant adaptation, including the relationship between gender and migration.

640. (NURS640) Global Health and Health Policy. (M) Aiken.

This participatory interdisciplinary seminar course examines contemporary issues in public health policy and global health. The organizing framework is social determinants of health. We consider evidence that inequalities in education, income, and occupation influence health status, and the policy dilemma that broad interventions to improve population health may increase health disparities. We critically examine whether prevention is always better than cure, and what modern medicine has to offer in terms of health. We explore the public policy process in health using the "tobacco wars" as a case example, of how politics, policy, law, commercial interests, and research intersect to affect the public's health. We examine whether global health is in a state of decline, and the extent to which failures in public health, public policy, and foreign policy have contributed to increasing threats to world health. Likewise we will examine the potential for greater integration of health into foreign policy to create global infrastructure upon which to advance health. We will examine the global health workforce and the impact of widespread global migration of health professionals on receiving and sending countries.

There are no prerequisites. The course is designed for graduate students in the

social and behavioral sciences, health professions, public health, business and law. Advanced undergraduate students will be admitted with permission.

643. (DEMG643) Social Stratification. (M) Jacobs, Park.

This is an advanced level graduate seminar where we will review contemporary research on social stratification and mobility. We will examine empirical and theoretical studies not only in the US but also in other countries to address how the pattern of social stratification varies across societies and over time. The main topics to be discussed are social mobility, occupational attainment, educational inequality, gender and race, and family processes and stratification. We will also examine studies that address how national contexts mediate social stratification. Advanced undergraduate students will be admitted with permission.

644. (BIOE604) Empirical Methods in Bioethics. (M) Bosk.

This course provides an introduction to social science research design and methods for students interested in conducting research on issues in bioethics. The course is appropriate for students who, rather than conducting research themselves, will use research findings to make or challenge arguments in policy statements or other writings. Emphasis is placed on the logic of research design as the way to relate topic of inquiry with methods so that evidence produced is pertinent and useful. Students will design research projects and explore a variety of methods available to conduct research. Students will also integrate research ethics into the formulation and design of their inquiries.

SM 649. A Course on Elites. Lareau.

Most of the studies of inequality look at poverty and the impact of poverty. This course will be a study of those at the top of the social stratification system. We will take a broad vision of elites of to include the upper-middle-class as well as those in the top 1%. The course will examine the concentration of wealth in American society. It will examine elite families. It will also look at elite education. There will be a unit on the financial industry, the 2008 debacle, and the failure of the government to regulate this important industry. We will also study the influence of race by comparing the black upper-middle-class with white upper-middle-class families. Thus, we will also look at the power of elites in a number of spheres. Finally, we will also read theoretical perspectives including the work of C.

Wright Molls, Marx, and Bourdieu. Thus, in addition to the focus on social stratification, this course cuts across sociology of the family, economic sociology, cultural sociology, and race and ethnic relations.

SM 650. Social Inequality. (M) Jacobs.

This course will study social inequality primarily in contemporary societies. We will examine both the distribution of social rewards as well as processes for the allocation of these rewards. Stratification theory and research on social mobility will be considered. Topics include the influence of education, race and gender, and structural and organizational factors on individual success. We will also discuss how societies' stratification systems vary across time and place. Acquaintance with stratification theory and quantitative methods would be helpful but not required.

SM 660. (AFRC420, AFRC620, SOCI460) Advanced Topics in Africana Studies. (C) Staff.

Advanced Topics in Africana Studies: The Sociology of W E B Du Bois; GIS for Social Science Research

662. (DEMG662) PANEL DATA ANALYSIS.

SM 664. (COMM665) DIGITAL MEDIA & SOC THEO. (C)

This seminar explores critical issues in contemporary society through the lens of digital media studies and social theory. Special attention will be given to how social theory may inform the theorizing and empirical analysis of digital culture, digital politics, and digital practices. We will read recent monographs on the meanings and uses of digital media in international development, international migration, state power and popular protest, symbolic violence, and the formation and contestation of identities, communities, and publics. These works will be examined alongside the social theories of Jeffrey Alexander, Ulrich Beck, Bourdieu, Judith Butler, Foucault, Giddens, Goffman, Habermas, Melucci, Victor Turner, and others. A term paper required

SM 667. Social Interaction. (M) Collins.

The dynamics of interpersonal interaction, especially in face-to-face encounters during limited short periods of time. Topics include: the theory of interaction rituals deriving from Durkheim, Goffman and their contemporary followers; conversation analysis; micro-ethnographic studies of non-verbal behavior and embodied interaction; sociology of emotions;

symbolic interactionist theory and the social nature of mind, self, and inner dialogue; electronically mediated interaction and its effects on social ties; and the relationship between micro and macro sociology.

SM 670. (DEMG670) Family Data. (C) Harknett.

This two semester course will engage each graduate student in an analysis project with qualitative and quantitative components, using a linked qualitative longitudinal data set. Students will use survey data from the baseline and 12 month wave of the Fragile Families study (described at <http://crcw.princeton.edu/fragilefamilies/>), a national survey of unwed and married parents who have just had a child (with unmarried parents over sampled) They will also use transcripts and coded data from the TLC3 study, which involved qualitative couple and individual interviews conducted with a subset of 75 of the couples in the FF survey in 3 waves: about 3 months after the birth and then again 12 and 24 months after the birth. Most of these are low-income, unmarried, cohabiting parents. The goal of the course is for each student to use these two data sets, and the analytic techniques and literature covered in the course, to write a paper that can be submitted for publication. The spring will also include lots of tips on how to construct a publishable paper. Students should only enroll in this course if they plan to take the spring sequel course as well.

SM 677. (DEMG677) International Migration. (M) Flippen.

A comprehensive review of theories and research on international migration. The course introduces the basic precepts of neoclassical economics, the new economics of labor migration, segmented labor market theory, world systems theory, social capital theory and the theory of cumulative causation. Readings examine patterns and processes of global migration during the classic age from 1800-1914 as well as during the postwar period from 1945 to the present. The course also covers a history and evaluation of immigration policies around the world, and devotes significant attention to theoretical and empirical perspectives on immigrant adaptation. Within this larger topic, we will also discuss internal migration and urbanization; the relationship between gender and migration; the spatial distribution of immigrants within the United States, immigrant communities, and ethnic enclaves; and the undocumented population in the United States.

SM 680. (CRIM600) Pro seminar in Criminology. (C) Staff.

This course explores the basic scope, mission and methods of the science of criminology. The course proceeds to cover the current state of theory, research, and accomplishments in both knowledge and policy about criminality and criminal events. Students will read widely and report to the seminar on their readings, as well as assessing key readings and central ideas for their potential guidance of future research. The course focuses primarily on criminology of criminal events, including law-making and law-breaking. The criminology of reactions to crime is covered in the second semester pro-seminar in criminal justice, CRIM 601/SOCI 681.

SM 681. (CRIM601) Pro-seminar in Criminal Justice. (C) MacDonald.

A wide-ranging introduction to theory and research on responses to crime under the rubric of criminal law. Theories of deterrence, procedural justice, reintegrative shaming, defiance and other interactions between legal sanctions and legal conduct will be examined in light of the most recent research. Issues of discrimination, disparity, and fairness in the operation of criminal law will be considered with evidence from around the world. Patterns, causes, and consequences of legal sanctioning patterns will be systematically documented, and major gaps in knowledge will be identified.

SM 685. Sociology of Violence. (C) Collins.

General theory of social conflict, with an emphasis on violent conflict. Specific applications include fights, riots, combat, and gang violence; tribal and modern war; abuse of the weak; domestic conflict; sexual conflict and rape; homicide; social movements and moral crusades; conflict management and social control; state breakdowns and revolutions; ethnic conflict and genocide.

SM 690. (DEMG707, DEMG708, SOCI691) Sociology Writing Workshop I. Jacobs, Lareau.

SM 691. (DEMG707, DEMG708, SOCI690, SOCI707, SOCI708) Sociology Writing Workshop II. Jacobs, Lareau.

SM 702. (AFRC702, AFRC710, AFST702, ENGL572, LALS702) Political Economy Social History of Africa/African Diaspora. (M) Zuberi.

The topic of this course will be Africa and the African Diaspora. The emphasis will

be on readings, class discussions, and seminars to reflect the ongoing discussions in the field. We will provide a series of readings for background to each section.

SM 707. (DEMG707) Second-Year Research Seminar I. (C) Staff.

This course is intended to hone the skills and judgment in order to conduct independent research in sociology and demography. We will discuss the selection of intellectually strategic research questions and practical research designs. Students will get experience with proposal writing, the process of editing successive drafts of manuscripts, and the oral presentation of work in progress as well as finished research projects. The course is designed to be the context in which master's papers and second year research papers are written. This is a required course for second year graduate students in Demography. Others interested in enrolling in only one of the courses may do so with the permission of the Chair of the Graduate Group in Demography.

SM 731. (DEMG731) Advanced Demographic Methods. (M) Smith. Prerequisite(s): DEMG 609 and SOCI 536 (or its equivalent).

This course considers a variety of procedures for measuring and modeling demographic processes. We will consider both deterministic (drawn from classic demographic methods, stable population theory, and the like) and stochastic (drawn from statistics) perspectives and methods, including their integration. Pre-requisites: DEMG 609 and SOCI 536 (or its equivalent).

SM 777. (AFRC777, DEMG777) Special Topics in Demography. (M) Staff.

Topics vary from semester to semester.

796. (DEMG796, ECON791) Demographic, Economic, and Social Interrelations. (M) Madden, Kohler.

The course investigates economic and social determinants of fertility, mortality, and migration, and it discusses the effects of population variables on economic and social conditions, including economic and social development. Topics discussed in the course include: How do economic changes affect marriage, divorce, and child bearing decisions? How do households make decisions about transfers and requests? How can economic and sociological approaches be combined in explanatory models of demography change? How does immigration to the US affect the ethnic composition of the population, the earnings

of native workers, taxes on natives, and the macro-economy? What causes the aging of populations, and how will population aging affect the economies of industrial nations, and in particular, pension programs like Social Security? What accounts for the rise in women's participation in the wage labor force over the past century? How are family composition and poverty interrelated? Does rapid population growth slow economic development with low income countries? In addition to these topics, the course also covers selected methods not included in Dem/Soc 535/536 and 609.

SM 821. (NURS821) Proseminar in Health Outcomes Research. (M)

Aiken, Lake. Prerequisite(s): Prior coursework at undergraduate or masters level in statistics and quantitative methods.

This course is designed for doctoral students interested in conducting health outcomes research. The course focuses on conceptual, methodological, statistical, feasibility and data issues central to the conduct of health outcomes research. Penn faculty researchers will use their ongoing studies to illustrate how study design, sampling, measurement, and advanced statistical techniques can be employed to address the various challenges inherent in health outcomes research.

822. (NURS822) Applications of Health Outcome Research. (C) Aiken.

Prerequisite(s): Prior coursework at undergraduate or masters level in statistics and quantitative methods, Nursing 821/Sociology 821 is preferred.

This the second of a two-course sequence designed for doctoral students interested in conducting health outcomes research. The first course (821) focuses on conceptual, methodological, statistical, feasibility and data issues central to the conduct of health outcomes research; the second course (822) focuses on applying health outcomes research through the development and implementation of a research project. In the first course Penn faculty researchers will use their ongoing studies to illustrate how sampling, study design, measurement, and advanced statistical techniques can be employed to address the various challenges inherent in health outcomes research. In the second course, students will design and implement a health outcomes research project.

SM 860. (COMM860) GLOBAL MEDIA ACTIVISM.

SM 867. (COMM867) Media & Social Movements. (M) Yang.

Examines the meanings and roles of media and communication in social movements;

analyzes media reform activism; studies both historical movements and contemporary protests around the world (Arab Spring, Indignados, Occupy, etc); covers a broad range of theoretical perspectives, especially network and diffusion theories, political economy, narrative theory, and theories of performance. Students are required to submit a final research paper.

SM 888. (COMM888) SPECIAL TOPICS.

998. Independent readings and research. (C) Staff.

For advanced students who work with individual instructors upon permission. Intended to go beyond existing graduate courses in the study of specific problems or theories or to provide work opportunities in areas not covered by existing courses.

999. Directed Readings and Research. (C) Staff.

Primarily for advanced students who work with individual instructors upon permission. Intended to go beyond existing graduate courses in the study of specific problems or theories or to provide work opportunities in areas not covered by existing courses.

SOUTH ASIA STUDIES (AS) {SAST}

012. (RELS012) Spices, Gunpowder, and Pagodas: A History of Southeast Asia. (C) Sevea & Ali.

This undergraduate course introduces students to the history of Southeast Asia from the earliest centuries of the Common Era to c.1950. It introduces students to Southeast Asia as religion, constituent historical societies of the region, and to the major academic literature and debates pertaining to the historical development of Southeast Asian societies and the region. Key themes explored include the origins and character of early civilizations, ideas and ideology about power and prowess, material culture, the transformation of ethnic, class, and gender relations, the impact of the arrival of world religions and early European expansion, and the nature of indigenous responses to the diffusion of new beliefs and ideas and intercultural contact.

147. (RELS069) Love, Sex & Power. Elias, J.

This course explores the ways in which some of the biggest issues in human life are dealt with across religious traditions. Beginning with important questions of sexual identity, politics, religion and the individual in contemporary life, we will examine questions of eroticism, sex and love as they are reflected in religious literature, art and history. The concept of divine love and religious devotion will be explored in relation to acts of violence, including human sacrifice and self-sacrifice in the form of martyrdom seen in pre-modern concepts of saintly martyrdom and religious chivalry as well as the religious legitimacy of modern self-sacrifice of soldiers in war and terrorist suicides. The course focuses in particular on examples drawn from Christianity, Hinduism, Islam and Mesoamerican Religion, although discussions of contemporary issues will be conducted with a broader sweep. Important questions considered in this course include: how does the body function as the locus in which religion is enacted? What is the conflict between our agency over our bodies and socioreligious claims over the individual? Is violence an integral part of religion? What are religious understandings of the relationship between love and sex? How can a human being love gods erotically?

SM 617. (COML217, HIST670, SAST217) Readings in Modern Indian History. (B) Ali.

This course will introduce students to the major themes and debates of modern Indian historiography. Though the course will not provide a survey outline of events, it will be organized around themes that have a broad chronological sequence. It will touch on key topical themes like the transition to colonialism, the development of the colonial economy, the evolution and significance of colonial knowledge systems, the impact and shape of religious and social reform, the rise of nationalism and communalism, and peasant, labour and subaltern history. The goal of the course will be to provide students with an understanding of the significance of debates around key themes in modern Indian history and a familiarity with the different 'schools' or 'traditions' of historical interpretation, including Nationalist, Marxist, the so-called 'Chicago', and 'Cambridge' schools, as well as the Subaltern collective and post-Subaltern historiography.

SM 623. (COML623) Literary History and Aesthetics in South Asia. (M) Patel.

This seminar surveys the multiple components of literary culture in South Asia. Students will engage critically with selected studies of literary history and aesthetics from the past two millennia. In order to introduce students to specific literary cultures (classical, regional, contemporary) and to the scholarly practices that situate literature in broader contexts of culture and society, the course will focus both on the literary theories - especially from the nineteenth and twentieth centuries - that position South Asia's literary cultures within broader disciplinary frameworks that use literary documents to inform social, historical and cultural research projects. The aim is to open up contexts whereby students can develop their own research projects using literary sources.

Foundational Courses

001. (HIST089) Introduction to Modern India. (C) History & Tradition Sector. All classes. Ali.

This introductory course will provide an outline of major events and themes in Indian history, from the Mughal Empire in the 16th century to the re-emergence of India as a global player in the 21st century. The course will discuss the following themes: society and economy in Mughal India; global trade between India and the

West in the 17th century; the rise of the English East India Company's control over Indian subcontinent in the 18th century; its emergence and transformation of India into a colonial economy; social and religious reform movements in the 19th century; the emergence of elite and popular anti-colonial nationalisms; independence and the partition of the subcontinent; the emergence of the world's largest democracy; the making of an Indian middle class; and the nuclearization of South Asia.

002. (ANTH107, URBS122) The City in South Asia. (C) Society Sector. All classes. Mitchell.

This interdisciplinary social science course examines key topics, themes, and analytic methods in the study of South Asia by focusing on significant South Asian cities. With one-fifth of the world's population, South Asia and its urban centers are playing an increasingly important role in recent global economic transformations, resulting in fundamental changes within both the subcontinent and the larger world. Drawing primarily on ethnographic studies of South Asia in the context of rapid historical change, the course also incorporates research drawn from urban studies, architecture, political science, and history, as well as fiction and film.

Topics include globalization and new economic dynamics in South Asia; the formation of a new urban middle class; consumption and consumer culture; urban political formations, democratic institutions, and practices; criminality & the underworld; population growth, changes in the built environment, and demographic shifts; everyday life in South Asia and ethnic, cultural, and linguistic identities, differences, and violence in South Asia's urban environments. This is an introductory level course appropriate for students with no background in South Asia or for those seeking to better understand South Asia's urban environments in the context of recent globalization and rapid historical changes. No prerequisites. Fulfills College sector requirement in Society and foundational approach in Cross-Cultural Analysis.

L/R 003. (HIST086, RELS164) History, Culture, and Religion in Early India. (C) History & Tradition Sector. All classes. Ali.

This course surveys the culture, religion and history of India from 2500 BCE to 1200 CE. The course examines the major cultural, religious and social factors that shaped the course of early Indian history. The following themes will be covered: the rise and fall of Harappan civilization, the

"Aryan Invasion" and Vedic India, the rise of cities, states and the religions of Buddhism and Jainism, the historical context of the growth of classical Hinduism, including the Mahabharata, Ramayana and the development of the theistic temple cults of Saivism and Vaisnavism, processes of medieval agrarian expansion and cultic incorporation as well as the spread of early Indian cultural ideas in Southeast Asia. In addition to assigned secondary readings students will read select primary sources on the history of religion and culture of early India, including Vedic and Buddhist texts, Puranas and medieval temple inscriptions. Major objectives of the course will be to draw attention to India's early cultural and religious past and to assess contemporary concerns and ideologies in influencing our understanding and representation of that past.

L/R 004. (COML005, COML012) India's Literature: Love, War, Wisdom and Humor. (C) Arts & Letters Sector. All Classes. Patel.

This course introduces students to the extraordinary quality of literary production during the past four millennia of South Asian civilization. We will read texts in translation from all parts of South Asia up to the sixteenth century. We will read selections from hymns, lyric poems, epics, wisdom literature, plays, political works, and religious texts.

005. (MUSC265) Performing Arts in South Asia. (C) Arts & Letters Sector. All Classes. Miner.

This course is a survey of selected traditions of theater, music, and dance in India and surrounding regions. Topics include ritual practices, theater, classical dance, classical music, devotional music, regional genres, and contemporary popular musics. Readings and lectures are supplemented by audio and visual materials and live performances. The aim of the course is to expose students to a variety of performance practices from this part of the world and to situate the performing arts in their social and cultural contexts. The course has no prerequisites.

L/R 006. (RELS066) Hindu Mythology. (C) Arts & Letters Sector. All Classes. Patel.

Premodern India produced some of the world's greatest myths and stories: tales of gods, goddesses, heroes, princesses, kings and lovers that continue to capture the imaginations of millions of readers and hearers. In this course, we will look closely at some of these stories especially as found in Purana-s, great compendia composed in

Sanskrit, including the chief stories of the central gods of Hinduism: Visnu, Siva, and the Goddess. We will also consider the relationship between these texts and the earlier myths of the Vedas and the Indian Epics, the diversity of the narrative and mythic materials within and across different texts, and the re-imagining of these stories in the modern world.

SM 007. (COML007, COML013) Introduction to Modern South Asian Literatures. Mohammad, A.

This course provides an introduction to the literatures of South Asia - chiefly India, Pakistan, and Bangladesh- between 1500 and the present. We will read translated excerpts from literary texts in several languages - Braj, Persian, Hindi, Urdu, Bengali, Marathi, Malayalam, and Tamil - and explore the relationship between these literary texts and their historical contexts. No prior knowledge of South Asia is required.

008. (HIST085, RELS068) India: Culture and Society. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Sreenivasan.

What makes India INDIA? Religion and Philosophy? Architectural splendor? Kingdoms? Caste? The position of women? This course will introduce students to India by studying a range of social and cultural institutions that have historically assumed to be definitive India. Through primary texts, novels and historical sociological analysis, we will ask how these institutions have been reproduced and transformed, and assess their significance for contemporary Indian society.

009. (RELS119, RELS519, SAST529) An Introduction to Religion in South Asia. (C) Sevea. Prerequisite(s): This undergraduate-level course introduces students to the multi-religious complexion of South Asia as a region, with a particular focus upon key religious traditions and the resemblances and interactions between them. This course is divided into two parts. In the first part of this course, students are introduced to key religious traditions of South Asia, Hinduism, Buddhism, Jainism, Islam and Sikhism. Students will be encouraged to survey academic works pertaining to, on the one hand, the literature, doctrines, cosmologies, rituals and histories of, and prominent places of worship in, the Hindu, Buddhist, Jain, Muslim and Sikh religious traditions. On the other hand, the development of South Asia into a distinctive space and spiritual 'homeland' for multi-religious communities. Whilst the first part of the course focuses upon religious traditions autonomously, the subsequent section of the course is thematic and encourages students to make comparisons, and discover sophisticated relationships and dynamic interactions between religious traditions in South Asia. Students are introduced to scholarly writings that are revelatory of the materiality of religious traditions in pre-modern and modern South Asia; everyday forms of piety in South Asia; gender positions in religious traditions; encounters of religious traditions with European.

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modern and modern South Asia; everyday forms of piety in South Asia; gender positions in religious traditions; encounters of religious traditions with European colonialism; and, perceptions of the 'other' in pre-modern religious traditions. Herein, students will find multiple sites of resemblances or differences, and cultural negotiations, engagements and contests, within religious traditions in South Asia.

010. CONTEMPORARY S.ASIA. (C)

L/R 150. (PHIL050, RELS155, RELS455) Introduction to Indian Philosophy. (C) History & Tradition Sector. All classes. Patel. D.

This course will take the student through the major topics of Indian philosophy by first introducing the fundamental concepts and terms that are necessary for a deeper understanding of themes that pervade the philosophical literature of India -- arguments for and against the existence of God, for example, the ontological status of external objects, the means of valid knowledge, standards of proof, the discourse on the aims of life. The readings will emphasize classical Hindu, Buddhist, and Jain philosophical articulations (from 700 B.C. to 16th century CE) but we will also supplement our study of these materials with contemporary or relatively recent philosophical writings in modern India.

Freshman Seminars

SM 051. Debating Colonialism and Its Aftermath in South Asia. (C) Mitchell. Freshman Seminar.

This Freshman Seminar explores the short and long term effects of British colonialism in India and South Asia. It also introduces the historiography of colonialism in South Asia, the different, often contradictory, stories that are told about the nature and impact of colonial rule, and about the process of achieving independence from colonial rule. By focusing on a small set of specific questions, students will learn to analyze primary and secondary historical sources, recognize the major schools of South Asian (particularly Indian) history writing, and identify how these various approaches discuss the past differently.

Major questions for this course will include the following: (1) How was Britain, a tiny European island nation, able to come to dominate nearly the entire South Asian subcontinent? (2) Did British rule help India develop technologically and economically or did it cause India to de-industrialize and become more impoverished? (3) Were the widespread

Indian rebellions of 1857 and 1858 a Sepoy Mutiny, the first war of Indian independence, or something else? (4) Did British colonialism shape and transform knowledge and identities within South Asia, including the caste system, Hinduism, and conflicts between Hindus and Muslims, or did these all exist in their present forms prior to colonialism?

SM 052. (ASAM012) Indians Overseas: A Global View. (C) Staff.

This course is about the history of Indian emigration. The course will consist of readings, discussions, observations, data collection and analysis. The topics will include cultural preservation and cultural change among East Indian immigrants especially in North America, the Caribbean area, the United Kingdom, the African continent, and some other countries in the Pacific Ocean. The course will encourage organized thinking, observations and analysis of components of the culture that immigrant communities are able to preserve and components that change or get reinterpreted.

SM 053. (ENGL016) Literature and National Trauma: Partition and Independence in South Asia. (C) Kaul.

This course will examine the way in which imaginative literature and film have addressed the difficult socio-political issues leading up to, and following from, the independence and partition of British India. Pakistan and India came into being as nation-states in moments of great national trauma: historians have long argued over the process that led up to Partition, and we will study some of these debates, but for the most part we will examine novels, short stories, poetry, and some films to think about the impact of Partition and Independence on communities and individuals in South Asia. In doing so, we will recognize the continuing role played by these events and experiences in shaping the cultural, social, and political realities of contemporary South Asia. We will also learn about the crucial role played by literary and creative texts in making available to us the full dimensions of human tragedy, especially those precipitated when the imperatives of nation-formation redefine the lives of individuals or of sub-national communities.

SM 057. Planning to be Off-shore?. (C) Gangulee.

In this course we will trace the economic development of India from 1947 to the present. Independent India started out as a centrally planned economy in 1949 but in

1991 decided to reduce its public sector and allow, indeed encourage, foreign investors to come in. The Planning Commission of India still exists but has lost much of its power. Many in the U.S. complain of American jobs draining off to India, call centers in India taking care of American customer complaints, American patient histories being documented in India, etc. At the same time, the U.S. government encourages highly trained Indians to be in the U.S.

Students are expected to write four one-page response papers and one final paper. Twenty percent of the final grade will be based on class participation, 20 percent on the four response papers and 60 percent on the final paper.

Undergraduate Courses

L/R 063. (ANTH063, HIST087) East & West: A Hitchhiker's Guide to the Cultural History of the Modern World. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Mitchell.

Sugar and Spices. Tea and Coffee. Opium and Cocaine. Hop aboard the Indian Ocean dhows, Chinese junks, Dutch schooners, and British and American clipper ships that made possible the rise of global capitalism, new colonial relationships, and the intensified forms of cultural change. How have the desires to possess and consume particular commodities shaped cultures and the course of modern history? This class introduces students to the cultural history of the modern world through an interdisciplinary analysis of connections between East and West, South and North. Following the circulation of commodities and the development of modern capitalism, the course examines the impact of global exchange on interactions and relationships between regions, nations, cultures, and peoples and the influences on cultural practices and meanings. The role of slavery and labor migrations, colonial and imperial relations, and struggles for economic and political independence are also considered.

From the role of spices in the formation of European joint stock companies circa 1600 to the contemporary cocaine trade, the course's use of both original primary sources and secondary readings written by historians and anthropologists will enable particular attention to the ways that global trade has impacted social, cultural, and political formations and practices throughout the world.

104. (MUSC060) Beginning Tabla I. (A) Bhatti.

An introduction to the tabla, the premier drum of north Indian and Pakistani classical music traditions.

105. (MUSC062) Beginning Tabla II. (B) Bhatti.

A continuation of Tabla I, also open to beginning students.

106. (MUSC061) Beginning Sitar I. (D) Miner.

This course is an introduction to the repertoire and performance practices of the North Indian sitar. Fundamentals of sitar technique, composition, and improvisation are presented and practiced in class. Class lectures and discussions, audio and video material, and reading and listening assignments on selected topics supplement practice, to provide an overview of the social and historical context and the formal structures of North Indian music in general. There are no prerequisites for the course, but some experience with instrumental or vocal music is suggested. Each student is expected to put in two hours of individual practice per week, and complete reading, audio, and written assignments. The class gives a group performance at the end of the semester.

107. (MUSC063) Beginning Sitar II. (B) Miner.

This is the second semester of a performance course in the North Indian sitar. Students who have not taken the first semester but play any musical instrument are permitted to join. Principles of composition and improvisation will be explored in practice and supplemented by readings and listening. The class gives a group performance at the end of the semester.

108. (ARTH514, MUSC161) Intermediate Sitar I. (C) Miner.

This is a performance course open to students who have completed both semesters of Beginning Sitar, or to others by permission from the instructor. Students will work with right and left-hand techniques, study three ragas in depth, learn the contours of several other ragas, and work with concepts of tala, composition, and improvisation. Assigned readings and listenings will complement the performed material. A group performance will be given at the end of the semester.

109. (MUSC162) Intermediate Sitar II. (C) Miner.

This is a continuation of an intermediate performance course in the North Indian sitar. It is open to students by permission of the instructor. Students who play other instruments and have had at least a beginning level of training in Hindustani music may also join, with the permission of the instructor.

115. (MUSC164) India's Classical Musics. (C) Miner.

Hindustani and Karnatak music are among the great classical music systems of the world. Developed in temple, shrine, court, and concert stage environments in North and South India, they have a strong contemporary following in urban South Asia and a significant international presence. This course is an introduction to theory, structures, instruments, and aesthetics. We will work with primary and secondary texts, recordings, videos, and live performances. Topics will cover selected aspects of raga, tala, composition, improvisation and social contexts. The course aims to give students analytical and listening skills with which to approach and appreciate India's classical music. No prior music training is required.

116. (MUSC266, MUSC466) Music Cultures of North India and Pakistan. (C) Miner.

A great variety of song and instrumental genres have thrived in the Hindu and Muslim milieus of North India and Pakistan. In this course we examine a selection of urban and rural musics, such as instrumental music in Baluchistan, qawwali in Delhi, the garba of Gujarat, ballad singing of Rajasthan and the urban music of Calcutta. We will explore the sounds, poetry, historical, and social contexts of chosen genres and trace aspects of continuity and adaptation in the changing environment of contemporary South Asia. Readings are supplemented by audio-visual material and live performances.

124. (COML125, ENGL103) Narrative Across Cultures. (C) Arts & Letters Sector. All Classes. Staff.

The purpose of this course is to present a variety of narrative genres and to discuss and illustrate the modes whereby they can be analyzed. We will be looking at shorter types of narrative: short stories, novellas, and fables, and also some extracts from longer works such as autobiographies. While some works will come from the Anglo-American tradition, a larger number will be selected from European and non-Western cultural traditions and from earlier

time-periods. The course will thus offer ample opportunity for the exploration of the translation of cultural values in a comparative perspective.

139. (NELC136, RELS143) Introduction to Islam. (C) Elias.

This course is an introduction to Islam as a religion as it exists in societies of the past as well as the present. It explores the many ways in which Muslims have interpreted and put into practice the prophetic message of Muhammad through historical and social analyses of varying theological, philosophical, legal, political, mystical and literary writings, as well as through visual art and music. The aim of the course is to develop a framework for explaining the sources and symbols through which specific experiences and understandings have been signified as Islamic, both by Muslims and by other peoples with whom they have come into contact, with particular emphasis given to issues of gender, religious violence and changes in beliefs and behaviors which have special relevance for contemporary society.

140. (RELS163) Introduction to Hinduism. (C) Staff.

This course will explore the history of the religion(s) designated by the term 'Hinduism' from their earliest articulations down to the rise of modern reforms in the nineteenth century. The study of Hinduism is perhaps unique among the scholarly traditions on world religions in that it has to date had no serious connected account of its historical development, as scholars have preferred to take structural, sociological, phenomenological, and doctrinal approaches to the religion. The course, after a brief review of scholarly approaches to Hinduism and their interpretive legacies, will seek to develop a historical sense of the religion through attention to shifts in liturgy, ritual, theology, doctrine, sacral kingship, and soteriology. The course will include the reading of primary sources relevant to understanding these changes as well as highlight both modern and premodern traditions of their interpretation. It will also consider and assess some of the key interpretive ideas in the study of Hinduism, including, Sanskritization, Great and Little Traditions, cult formation, regional and popular religious movements, and canon formation. There will also be sustained consideration of the question of religion and socio-political power as well as relations between Hinduism and other religions like Buddhism and Islam.

141. (ANTH142, RELS142) Islam in South Asian Culture. (C) Spooner.

Islam reached South Asia in the eighth century and Muslim rulers held sway over large parts of the Subcontinent for much of the period from the late 12th century until the colonial period. However, the majority of the population never converted to Islam, and since independence in 1947 Islam--its interpretation, realization, and influence--has been a major factor underlying many difficult political issues. This has been true not only in the largest country, India, where Muslims form 12% (unevenly distributed) of the population, but in Bangladesh and Pakistan where non-Muslims are relatively insignificant minorities. This course explores the realities and the perceptions related to Muslim identities and the Islamic heritage in the Subcontinent, and sets it in global context by comparison with other parts of the world which share various aspects of the South Asian experience. The course will conclude with an assessment of the larger significance--social, economic and political, as well as cultural--of Islam in South Asia today.

L/R 142. (EALC015, RELS173) Introduction to Buddhism. (C) McDaniel.

This course seeks to introduce students to the diversity of doctrines held and practices performed by Buddhists in Asia. By focusing on how specific beliefs and practices are tied to particular locations and particular times, we will be able to explore in detail the religious institutions, artistic, architectural, and musical traditions, textual production and legal and doctrinal developments of Buddhism over time and within its socio-historical context. Religion is never divorced from its place and its time. Furthermore, by geographically and historically grounding the study of these religions we will be able to examine how their individual ethic, cosmological and soteriological systems effect local history, economics, politics, and material culture. We will concentrate first on the person of the Buddha, his many biographies and how he has been followed and worshipped in a variety of ways from Lhasa, Tibet to Phrae, Thailand. From there we touch on the foundational teachings of the Buddha with an eye to how they have evolved and transformed over time. Finally, we focus on the practice of Buddhist ritual, magic and ethics in monasteries and among ally communities in Asia and even in the West. This section will confront the way Buddhists have thought of issues such as "Just-War," Women's Rights and Abortion.

While no one quarter course could provide a detailed presentation of the

beliefs and practices of Buddhism, my hope is that we will be able to look closely at certain aspects of these religions by focusing on how they are practiced in places like Nara, Japan or Vietnam, Laos.

143. (RELS169) Religion in Modern India. (C) Staff.

Who has decided what counts as a religion in India in the last two centuries, and how has this shaped political, social, economic and not the least religious life? When did it become obvious that many religious practices in India should be grouped under the rubric 'Hinduism'? How has it come about that the most contentious issues in India today concern religion? This course invites students to formulate answers to these questions by critically examining decisive moments in recent Indian history including: missionary and colonial encounters with Indian religions, the making of Indian nationalism, anti-caste protests that attempt to redefine religion, and a postcolonial secular state's attempts to determine Islamic law.

L/R 146. (NELC184, RELS146) Islam in the Modern World. (B) Humanities & Social Science Sector. Class of 2010 & beyond. Elias.

This course key issues facing Muslims in the modern world with an emphasis on gaining an understanding of how Muslims view themselves and the world in which they live. Beginning with a discussion of the impact of colonialism, we will examine Islamic ideas and trends from the late colonial period until the present. Readings include religious, political and literary writings by important Muslim figures and focus on pressing issues in the Islamic world and beyond: the place of religion in modern national politics; the changing status of women; constructions of sexuality (including masculinity); pressing issues in bioethics; Islam, race and immigration in America; the role of violence; and the manifestations of religion in popular culture.

SM 163. (COML163, HIST227) Empire and Popular Culture: India and the Metropole. (C) Mukharji.

This course will explore the everyday experiences of the empire of those who were located physically in the "metropolitan home". Beyond the politics and economics of the empire, this course studies the impact of the empire on the everyday lives of the British in the imperial age. Structured around how a Briton living in the 'home' might come to experience the empire through his/her encounters with the diverse cultural images and artefacts that

were circulating since the turn of the nineteenth century, this course will specifically look at how these popular images of the Indian empire came to be informed by and in turn helped inform the shifting imperial notions of masculinity, sexuality, class, race and even spirituality.

L/R 166. (ANTH166, HIST156) HISTORY OF INDIAN BUSINESS. (C) Mitchell.

With annual growth rates between 5-10 percent for much of the last fifteen years, it may seem that the turn of the millennium has marked a fundamental shift in the state of Indian business. Yet at the same time stories continue to abound about the dark side of India's recent "shining" where matters such as distributional justice and the fate of social strata like the subaltern poor and agrarian are concerned. Moreover, broader intra-regional forces continue to affect the state of business in a way that constantly reminds us that traditionally lacked any absolutely clear cut geographical correlate. How then should we think of the history of Indian business? In what ways is such a history different from or the same as the economic history of the South Asian subcontinent, its borderlands, and the broader Indian Ocean world it was long connected to? Can isolating something to be thought of as business in the past illuminate the structure or challenges of what we all so intuitively think of as the financial, commercial, and industrial aspects of business in the present? In this course we will consider these and other questions by tracing the interactions between the three-fold forces of entrepreneurialism, labor, and kinship/sovereignty--considered as the underlying conditions of business activity's possibility--from ancient to modern times in South Asia.

By looking at topics ranging from merchants and their bills of exchange in South Asia's antiquity to the impacts of colonial rule to the current fervor over liberalizing independent India's retail sector, the course will thus be both a history of the past as well as a history of the present.

SM 169. (ANTH169, NELC189) Merchants, Saints, Slaves and Sojourners: the Worlds of the Indian Ocean. (C) Petrie.

Do oceans serve to divide and demarcate distinct cultures and regions? Or do they facilitate exchange, connection and cosmopolitanism? This course will explore the manner in which the Indian Ocean has played both roles throughout history, and how the nature of those divisions and

connections has changed over time from the ancient to the modern world. We will reconstruct the intertwined mercantile, religious and kinship networks that spanned the Indian Ocean world, across the Middle East, East Africa, South Asia, Southeast Asia and China, illuminating the histories of Hinduism, Buddhism and Islam, while also considering the role of successive imperial political formations, from Rome to Britain. Throughout the semester we will seek to understand the Indian Ocean through the people who lived and worked in its milieu - from consuls and military commanders, to traders, brokers, sailors, prisoners and slaves. Course materials will draw on a variety of disciplines (anthropology, archaeology, material culture, religious studies) to construct the cultural, economic, and environmental history of the Indian Ocean.

SM 170. (ASAM170) Asian American Psychology. Kumar, M.

Using a cultural perspective, this course is intended to provide knowledge of Asian American personality, identity, and its relationship to mental well being; analyze psycho-social research pertinent to Asian Americans; and develop critical thinking skills on Asian American issues through experiential learning/discussions.

SM 189. (ANTH189, SAST589) Islam in Modern South Asia. Staff.

This course will examine Islam in modern South Asia, particularly in Pakistan, from multiple disciplinary perspectives. In popular discourse and media, Pakistan is usually presented as a volatile Muslim country primarily of interest as a "security problem". Most Western discussions and commentaries about Pakistan abound with stereotypical depictions of religious fundamentalism and/or the threat of the country's nuclear weapons to global security. This course will complicate and bring into question such stereotypes and alarming narratives. It will do so by examining the complexity of Pakistan's religious and political past and present. The focus of this course is on the intellectual history and traditions, as well as the lived practice of Islam in Pakistan. By drawing on a range of primary and secondary sources including film, literature, and anthropological texts, we will explore the diversity of Islam and Muslims in Pakistan. We will begin with the context of colonial India, and interrogate transformations in South Asian Islam during the 19th and early 20th century, before moving to Pakistan in the contemporary period. Among the major themes discussed in this course include

modern South Asian Muslim reform movements, intra-Muslim polemics on questions of normative practice and ethics, contestations of religious authority, sectarianism, minorities, Madrasas (Islamic seminaries) and Muslim traditions of education, religion and the state, Cyber Islam, and religion and the media. While focusing on modern South Asia and Pakistan, this course will also engage Islam in Afghanistan in both historical and contemporary contexts.

197. (HSOC107) Science, Technology & Medicine in Colonial India. (C) Mukharji.

In this course we will explore the broad contours of the histories of Science, Medicine and Technology in Colonial India (c. 1757 - 1947). This broad overview will be developed each week through a case study based on any one particular scientific discipline, technological project or medical event. Overall the course will attempt to locate the development of science, technology and medicine within the social, political and cultural context of colonial India. It is also worth noting that 'Colonial India', will include discussions of regions which today make up the Republic of India, Pakistan and Bangladesh.

199. Independent Study. (C) Staff.

Directed Study for Undergraduates

200. (ARTH104, SAST500) Introduction to Art in South Asia. (C) Arts & Letters Sector. All Classes. Meister/Staff.

This course is a survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C., touching on the present. It attempts to explore the role of tradition in the broader history of art in India, but not to see India as 'traditional' or unchanging. The Indian sub-continent is the source for multi-cultural civilizations that have lasted and evolved for several thousand years. Its art is as rich and complex as that of Europe, and as diverse. This course attempts to introduce the full range of artistic production in India in relation to the multiple strands that have made the cultural fabric of the sub-continent so rich and long lasting.

223. (PSCI220) Comparative South Asian Politics. (C) Frankel.

The comparative study of South Asian politics begins with many antecedent questions. What are the reasons why a strong national political identity in the Indian subcontinent was no consolidated and territorial boundaries defined until the advent of the British Raj? Alternatively,

given major regional diversities, why did the subcontinent not become differentiated into a large number of national states on the model of Europe? To what extent was the movement toward a unified territorial state weakened by colonial policies that recast social groups in terms of new pan-Indian categories based on caste and religious identities? What factors led to the partition of the subcontinent at the time of independence on the basis of religion, and what consequences did partition have for the strategies adopted by each state to develop an overarching national identity and universal principles of legitimate state power? Although the greater part of the course will address these questions by analyzing the social and political dynamics of democracy in India, they are equally relevant for understanding the difficulties encountered by Pakistan in defining a core identity and a stable form of government.

SM 224. (ENGL293, SAST524) Growing up Funny: Nation and Identity in South Asian Writing. (C) Loomba.

It is a curious fact that some of the most compelling fiction about and by South Asians features the coming of age of a child protagonist. This body of writing appropriates and reshapes the classic European Bildungsroman, but it also uses narrative traditions from South Asia in order to tell the story of the postcolonial nation, and to chart the contours of contemporary South Asian identity and sexuality. In this course, we will read novels, short stories and plays--some well known and others less so, some now considered 'classics' and others very recent, produced from within the Indian subcontinent as well as from the West. All of these speak of the excitement and trauma of growing up 'Indian'. Through them, we will discuss key features of the political and social upheavals of the Indian subcontinent, as well as the dynamics of the family, gender relations, sexual identities and cultural belonging. The course will include writings by Rudyard Kipling, Salman Rushdie, Bapsi Sidhwa, Amitav Ghosh, Mahasweta Devi, Hanif Kureishi, Anjana Appachana, Arundhati Roy, Meera Sayal, Sara Suleri, Shyam Selvadurai, and Mahesh Dattani.

SM 249. (RELS249) Re-enchanting Modernity: A Guide to Sufism in South Asia. Sevea.

This undergraduate level course introduces students to Sufism in modern South Asia, with a particular focus on how Muslim 'mystics' and their 'mystical' methods interacted with modernity, colonialism,

technological developments and globalization. This course is divided into three parts. In the first part of this course, students are provided with an overview of the theological and historical background of the dominant expression of Islam that came to be identified as 'Sufism' or 'Islamic mysticism', the historical development of Sufi institutions and spaces in South Asia, and the historical emergence of South Asia as a prominent global center of Sufism. The second and main part of this course introduces students to a range of anthropological and historical works that are revelatory about how Sufi in modern South Asia were and remain intimately connected to modern political and technological developments. Providing students with an overview of Sufi re-enchantments of modernity from the 19th to 21st century, this section of the course focuses upon Sufi movements and masters who perpetuated or defended customary Islam through sophisticated appropriations of technologies and print networks, and negotiations with non-Muslim rulers and societies. Moreover, students will be introduced to anthropological and historical scholarship on religious worlds

in modern South Asia that were and remain steeped in 'customary Islam' and Sufi performances and interpretations of Islam. These sources reveal how 'mystical' methods of performing Islam through ecstasy and spiritual restoration, and interpretations of dreams and visions, have regularly interacted with contemporaneous technologies. The third part of this course introduces students to the globalization of South Asian Sufism in North America, Europe and Southeast Asia. Herein, students will be encouraged to engage with anthropological and literary works pertaining to itinerant South Asian Sufi masters and their devotional cults, and introduced to active South Asian Sufi centers in Philadelphia.

250. (RELS251) History of Hinduism. Soneji.

This course will explore the history of the religion(s) designated by the term 'Hinduism' from their earliest articulations down to the rise of modern reforms in the nineteenth century. The study of Hinduism is perhaps unique among the scholarly traditions on world religions in that it has to date had no serious connected account of its historical development, as scholars have preferred to take structural, sociological, phenomenological, and doctrinal approaches to the religion. The course, after a brief review of scholarly approaches to Hinduism and their interpretive legacies, will seek to develop a historical sense of

the religion through attention to shifts in liturgy, ritual, theology, doctrine, sacral kingship, and soteriology. The course will include the reading of primary sources relevant to understanding these changes as well as highlight both modern and premodern traditions of their interpretation. It will also consider and assess some of the key interpretive ideas in the study of Hinduism, including, Sanskritization, Great and Little Traditions, cult formation, regional and popular religious movements, and canon formation. There will also be sustained consideration of the question of religion and socio-political power as well as relations between Hinduism and other religions like Buddhism and Islam.

252. (ANTH242, MUSC252) Music of South and Southeast Asia. Sykes.

What role does music play in articulating religious identities and spaces? What is the importance of ritual musics as they persist and change in the modern world? How does music reflect and articulate religious ways of thinking and acting? In this course, we explore these and other questions about the interrelations between music, religion, and ritual in South and Southeast Asia. Focusing on India, Sri Lanka, Malaysia, and Indonesia, the course emphasizes musics from Hindu, Buddhist, Muslim and Christian traditions; nevertheless, it draws widely to touch upon sacred musics in Pakistan, Nepal, Burma, Thailand, Vietnam, and among some indigenous peoples in the region. Throughout, we explore ontologies of sound; sonic occurrences in religious structures, public processions, and pilgrimage sites; the construction of religion and ritual as ideas forged through colonial encounter and modern scholarship on religion; the politics of sacred sounds in today's public spaces and contemporary media, such as television and online; and the surprising fluidity between popular and sacred musical genres.

256. (PSCI257) International Relations of South Asia. (C) Frankel.

One of the great accidents of history is the Partition of the subcontinent into the two states of India and Pakistan, and the onset of the cold war as a global struggle between the United States and the Soviet Union. The major focus of the course is on the interaction between regional conflicts, the most enduring symbolized by the unresolved dispute between India and Pakistan over Kashmir, and the global strategies of rival great powers which sought to tip the balance of power in their favor by military and ideological influence over the "third world." These conflicts were

exacerbated by the Indian leadership's commitment to an independent foreign policy of non-alignment, and its aspirations to leadership of newly independent states in Asia and Middle East, ranged against Pakistan's inability to establish a viable state without external support. The resulting alignments and alliances drew the subcontinent into the center of cold war rivalries. The last part of the course focuses on the changing security environment after the cold war, the rise of India and China as competitors for influence; and problems posed by persisting mutual resentment and distrust in India and the United States, despite recognition on both sides of the need to cooperate and avoid China's domination of Asia.

262. (SAST562) The Making of Medieval India. (C) Ali.

This course will provide an in-depth understanding of South Asia in what is often called its 'medieval' period--from the rise of the great temple kingdoms until the end of the Delhi Sultanate in the sixteenth century (c. 500 CE - c. 1500 CE). This millennium is arguably one of the most transformative in South Asia's history, a period when many of its most distinctive social and cultural features evolved. The course will provide both an overview of the period as well as an introduction to major interpretations and types of sources (textual, visual, and archaeological). The focus throughout the course will be on the heterogeneous development of states, societies and cultures with special attention to long-term processes of transformation. One set of themes explored will be largely social and economic, focusing on the development of agrarian and peasant societies, aristocracies and intellectuals, as well as the role of mercantile, pastoralist, nomadic and forest-living groups. Another set of themes will explore cultural transformation, including the development, transformation and interaction of religious practices, the emergence of cosmopolitan and regional literary cultures, and the rise of distinctive urban, courtly, and rural world views.

Special themes of discussion may include violence and manners, material cultures, religious conflict, devotional religion and gender relations.

SM 269. (ASAM239, NELC239) Migration and the Middle East. (M)

Sharkey. This is a topics course and will vary from year to year.

This reading and discussion-intensive seminar examines the phenomenon of migration into, out of, within, and across

the Middle East and North Africa. We will focus on the period from the late nineteenth century to the present, and will emphasize the cultural (rather than economic) consequences of migration. Along the way we will trace connections between the Middle East and other regions-- notably the Americas, sub-Saharan Africa, South Asia, the Caucasus, and Western Europe. Readings are interdisciplinary and include works of history, anthropology, sociology, medical research, literature, political science, geography, and human rights advocacy. As students develop final projects on topics of their choice, we will spend time throughout the semester discussing tactics for research and writing.

SM 282. (GSWS282, INTR290, SAST582) Gender & Development in India. (C) Roy.

284. (PSCI256, SAST584) International Relations of the United States and Asia. (C) Frankel.

This course is one of the first arising out of scholarship on cold war international history. It draws on declassified government documents and other archival records to provide a window into the world-view of decision-makers who need to make national security policy based on incomplete information about ambiguous threats. The materials reveal a great deal about the importance of divergent historical perspectives and strategic cultures in the foreign policy-making process. The main focus of the course is on the intersection of the cold war and the rise of Asian nationalism. At the core of the analysis is the clash between America's global strategy of military containment against the Soviet Union and the assertion of Indian, and Chinese nationalism, concerned with preventing the United States from succeeding to Great Britain's imperial rule. The course examines new patterns of US-India and US-China relations in the post-cold war period. This is primarily a lecture course, but the course web is a critical element of class work.

290. (ASAM160, SAST590) South Asians in the United States. (A) Khan.

This course investigates the everyday practices and customs of South Asians in America. Every immigrant group has its own history, customs, beliefs and values, making each unique while simultaneously a part of the "melting pot" or salad bowl" of American society. Yet how do people define themselves and their ethnicities living in a diasporic context? By taking into account the burgeoning South Asian American population as our model, this

course will explore the basic themes surrounding the lives that immigrants are living in America, and more specifically the identity which the second generation, born and/or raised in American, is developing. South Asians in the U.S. will be divided thematically covering the topics of ethnicity, marriage, gender, religion, and pop culture. Reading and assignments will discuss a variety of issues and viewpoints that are a part of the fabric of South Asia, but will focus on the interpretation of such expressive culture in the United States.

291. US in South Asia.

292. (INTR290) Topics in International South Asian Relations. Staff.

293. (SAST593) Caste & Class in South Asia. (C) Sreenivasan.

This course will explore the reality of caste and class in South Asian society, and the theories, classical and modern, that attempt to explain it. We shall survey a wide sweep of sources, from the earliest evidence for a division into caste-classes in the Rig-Veda to reports in modern media of caste-related social problems; from orthodox Hindu normative texts justifying and upholding a rigid hierarchical division of society to voices, in Sanskrit and in vernaculars, criticizing the caste system. Our goal is to gain a nuanced and many-sided insight into a deeply pervasive phenomenon that has shaped South Asian society, culture, and religion in general (Muslim, Sikh, and Christian castes) from ancient time up to the twentieth century.

299. Independent Study. (C) Staff.

300. Directed Study. (C) Staff.

This course is required for all senior honors majors, and open to senior majors. Honors majors must, in addition, prepare a research paper.

SM 312. (ARTH311, ARTH312) 20th Century South Asian Art. Meister.

Topic varies.

Spring 2015: Using resources of the Philadelphia Museum of Art's exceptional collection, this workshop will explore India's remarkable traditions of sculpture produced for singular narrative and iconic ends.

SM 324. (COML324, COML624, SAST624) Sanskrit Literature and Poetry. Patel.

This course will focus solely on the specific genres, themes, and aesthetics of Sanskrit literature (the hymn, the epic, the lyric,

prose, drama, story literature, the sutra, etc.) and a study of the history and specific topics of Sanskrit poetics and dramaturgy. All readings will be in translation.

SM 334. (COML334, SAST534) A Survey of Sanskrit, Prakrit, and Classical Tamil Literature in Translation. Patel.

This course will cover most of the genres of literature in South Asia's classical languages through close readings of selections of primary texts in English translation. Special focus will be given to epics, drama, lyric poetry, satirical works, and religious literature.

369. (ANTH369, SAST669) Islam & the Cultural Politics of Nationalism in Modern South Asia. (C) Sreenivasan.

India, Pakistan, and Bangladesh together have the largest population of Muslims in the world. This course provides an introduction to the history of Muslim communities in modern South Asia: their reconstitutions in the modern period and their role in the formation of the region's nation-states in the twentieth century. We will read primary sources - political speeches, newspaper reports, diaries, fiction, poetry, film and music - and interpret them historically as we acquaint ourselves with South Asian Muslim cultures. No prior knowledge of South Asia is required.

380. (PSCI511, SAST680) Society & Politics in India. (C) Frankel.

This course analyzes the changing relations between social dominance and state power from the time of colonial rule. Special emphasis is placed on ways in which the historical-social context of India at Independence shaped the democratic institutions introduced, and reciprocally, how social hierarchy and preferences for group rights have been affected by egalitarian and liberal principles of governance. Within this analytical framework, religion, caste, class and ethnicity are examined as process and as social formation leading to the emergence of new identities and conflicting ideas of political community associated with them.

SM 397. (HSOC307) Global Med S. Asia. (C) Mukharji.

This seminar will explore a wide range of themes at the intersection of globalization and therapeutic cultures in South Asia and amongst South Asian diasporas. To begin with the course understands 'supraterritoriality' as the key feature in globalization and proceeds to interrogate the myriad ways in which this

supraterritoriality was produced, consumed, used and abused within the therapeutic cultures that have been, and on occasion still are, available in South Asia-both in reality and symbolically. Each week, through a specific case study, framed by a few theoretical readings we will attempt to deepen and problematize the simple definition of globalization with which we start the course. Throughout the course there will be a strong emphasis on combining case study-based empirical material with theoretical interventions in Cultural Theory and Postcolonial Studies.

SM 495. (GSWS595) Women Social Movements in South Asia. (M) Roy.

This is an introduction to studying gender systems and women's situations across cultures and countries with a special emphasis on South-Asia. The class focuses on "globalization," the flows of people and culture that are increasing around the world. The class begins with the historical background for understanding the current period of globalization. We will look at the specific case of colonization in South Asia and emphasize its role in the rise of factories in both colonized and colonizing nations. We then consider the role of these factories in today's world as they employ women from the third world (sweatshops), and explore other issues related to gender and globalization and discuss scholarly responses to the changing world system. This class approach stresses that in order to understand women's lives in the non-western world, it is important to understand the on-going connections between the "first world" and between the United States and the rest of the world. The larger objectives of the course are: 1. To learn about the history and current conditions of South Asia, particularly as they affect women and gender. 2. To be able to identify relations between the "first world" and the "third world through an understanding of elements of globalization

SM 490. Advanced Sanskrit Topics Course. (C) Patel.

Graduate Courses - 500 Level

500. (ARTH104, SAST200) Introduction to Art in South Asia. (M) Meister/Staff.

This course is a survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C., touching on the present. It attempts to explore the role of tradition in the broader history of art in India, but not to see India as 'traditional' or unchanging. The Indian sub-continent is the source for multi-cultural civilizations

that have lasted and evolved for several thousand years. Its art is as rich and complex as that of Europe, as diverse. This course attempts to introduce the full range of artistic production in India in relation to the multiple strands that have made the cultural fabric of the sub-continent so rich and long lasting.

SM 502. (RELS149, RELS549) The Mullah & The Englishman - Islam in Modern South Asia. (C) Sevea.

This course introduces students to Islam in modern South Asia, with a particular focus on the development of 'new' Muslim religious idioms, orientations, pedagogies and movements in 19th and 20th century South Asia. This course is divided into three parts. In the first part of this course, students are provided with an overview of: Muslim institutions and spaces in pre-colonial South Asia, the historical emergence of South Asia as a prominent global center of Islam, and the development of Urdu as an Islamic idiom. The second and main part of this course introduces students to academic literature concerning sophisticated encounters between the Muslim elite in north India and modern political and technological developments. The intimate interactions of the 'Mullah' and the 'Englishman' from the 19th to 20th century will thus be revealed to students. This part focuses upon, on the one hand, the role of Islam and pious Muslims in the colonial army, and on the other hand, Muslim initiatives to educate an Islamic 'modernism', 'traditionalism', 'fundamentalism' and 'Sufism', and appropriate print technologies for the creation of public spheres. Students will be introduced to historical scholarship revelatory of how these Muslim pedagogies and print initiatives were based upon sophisticated transcultural networks and exchange.

In the third part of this course, students will be encouraged to engage with contemporary literature on South Asian Muslim political philosophy and nationalism, and the transcultural intellectual exchanges that produced key Muslim political ideologies.

SM 505. (ARTH511) Topics in Indian Art. (C) Meister.

Aspects of sculpture, painting, iconography, or architecture in the Indian sub-continent. Topic varies.

Fall 2016: Important as texts have been to South Asia's history, perceptions of the physical world dominate experience within South Asian cultures. Seeing and being seen, vocalizing and hearing, contribute to the construction of meaning.

This pro-seminar will approach South Asia's perceptual world as expressed and tested by art, and methods to frame art as a source of knowledge.

SM 507. (COML007, SAST007) Introduction to Modern South Asian Literature. Sreenivasan, R.

Prerequisite(s): This course provides an introduction to the literatures of South Asia - chiefly India, Pakistan, and Bangladesh-between 1500 and the present. We will read translated excerpts from literary texts in several languages - Braj, Persian, Hindi, Urdu, Bengali, Marathi, Malayalam, and Tamil - and explore the relationship between these literary texts and their historical contexts. No prior knowledge of South Asia is required.

513. (CIMS215, GSWS213, GSWS513, SAST213) Indian Cinema and Society. (C) Staff.

This course will meet for three hours to view and discuss a variety of films/videos in Hindi, Tamil, Bengali, Urdu (with English subtitles), and English, which bring up issues of social, political, and cultural significance. Readings for the course will include articles in various fields ranging from film studies and communication to sociolinguistics and women's studies. Discussions will focus on cinema as a means of expression and as an instrument for social change, examining the various ways in which films both reflect and influence contemporary culture.

524. (SAST224) Growing up Funny: Nation and Identity in South Asian Writing. (C) Loomba.

It is a curious fact that some of the most compelling fiction about and by South Asians features the coming of age of a child protagonist. This body of writing appropriates and reshapes the classic European Bildungsroman, but it also uses narrative traditions from South Asia in order to tell the story of the postcolonial nation, and to chart the contours of contemporary South Asian identity and sexuality. In this course, we will read novels, short stories and plays--some well known and others less so, some now considered 'classics' and others very recent, produced from within the Indian subcontinent as well as from the West. All of these speak of the excitement and trauma of growing up 'Indian'. Through them, we will discuss key features of the political and social upheavals of the Indian subcontinent, as well as the dynamics of the family, gender relations, sexual identities and cultural belonging. The course will include writings by Rudyard Kipling, Salman

Rushdie, Bapsi Sidhwa, Amitav Ghosh, Mahasweta Devi, Hanif Kureishi, Anjana Appachana, Arundhati Roy, Meera Sanyal, Sara Suleri, Shyam Selvadurai, and Mahesh Dattani.

SM 528. (PSCI511) Society & Politics in India. (M) Frankel.

This course analyzes the changing relations between social dominance and state power from the time of colonial rule.

529. (RELS119, RELS519, SAST009) An Introduction to Religion in South Asia. Sevea.

This undergraduate-level course introduces students to the multi-religious complexion of South Asia as a region, with a particular focus upon key religious traditions and the resemblances and interactions between them. This course is divided into two parts. In the first part of this course, students are introduced to key religious traditions of South Asia, Hinduism, Buddhism, Jainism, Islam and Sikhism. Students will be encouraged to survey academic works pertaining to, on the one hand, the literature, doctrines, cosmologies, rituals and histories of, and prominent places of worship in, the Hindu, Buddhist, Jain, Muslim and Sikh religious traditions. On the other hand, the development of South Asia into a distinctive space and spiritual 'homeland' for multi-religious communities. Whilst the first part of the course focuses upon religious traditions autonomously, the subsequent section of the course is thematic and encourages students to make comparisons, and discover sophisticated relationships and dynamic interactions between religious traditions in South Asia. Students are introduced to scholarly writings that are revelatory of the materiality of religious traditions in pre-modern and modern South Asia; everyday forms of piety in South Asia; gender positions in religious traditions; encounters of religious traditions with European colonialism; and, perceptions of the 'other' in pre-modern religious traditions. Herein, students will find multiple sites of resemblances or differences, and cultural negotiations, engagements and contests, within religious traditions in South Asia.

SM 534. (SAST334) A Survey of Sanskrit, Prakrit, and Classical Tamil Literature in Translation. Patel.

This course will cover most of the genres of literature in South Asia's classical languages through close readings of selections of primary texts in English translation. Special focus will be given to epics, drama, lyric poetry, satirical works, and religious literature.

SM 536. (HSSC536) IMPERI MED BRITISH WORLD.

SM 541. (NELC581, RELS541) Islam & Religious Image. (M) Elias.

This seminar explores the place of visual religious arts in Islam; we will attempt to get beyond conventional ideas regarding the impropriety of visual representation to examine how Muslims have understood and deployed visual art in a number of historical and cultural contexts. In the process, we will explore the ways in which visuality as a process renders the act of seeing into a religious experience. As such, we will also examine the role of the arts in relation to religion: how does vision affect the understanding and practice of religion, and what do visual arts tell us about religion in ways that texts of speech cannot? Simultaneously, what does the study of religion tell us about visual art that art history cannot?

548. (RELS250, SAST248) Hindu-Muslim Relations in South Asia. Staff.

This seminar examines engagements between Hindu and Muslim traditions in South Asia from medieval to modern times. We explore historical case studies of Hindu-Muslim relations and the formation of religious identities, together with the ways in which these identities have been contested and constructed in modern discourses on religion and politics. Through the course of the seminar, we interrogate the analytical categories of conquest, iconoclasm, conversion, and syncretism, around which several current debates on Hindu-Muslim relations have been framed. Topics discussed include: the interactions of Sufi, Bhakti and Yogic traditions, Mughal religious cultures; the impact of colonialism on religious identities and sectarian relations; the partition of India and creation of Pakistan, and nationalist historiographies.

SM 550. (RELS551) History of Hinduism. Ali.

This course will explore the history of the religion(s) designated by the term 'Hinduism' from their earliest articulations down to the rise of modern reforms in the nineteenth century. The study of Hinduism is perhaps unique among the scholarly traditions on world religions in that it has to date had no serious connected account of its historical development, as scholars have preferred to take structural, sociological, phenomenological, and doctrinal approaches to the religion. The course, after a brief review of scholarly approaches to Hinduism and their interpretive legacies, will seek to develop a historical sense of

the religion through attention to shifts in liturgy, ritual, theology, doctrine, sacral kingship, and soteriology. The course will include the reading of primary sources relevant to understanding these changes as well as highlight both modern and premodern traditions of their interpretation. It will also consider and assess some of the key interpretive ideas in the study of Hinduism, including, Sanskritization, Great and Little Traditions, cult formation, regional and popular religious movements, and canon formation. There will also be sustained consideration of the question of religion and socio-political power as well as relations between Hinduism and other religions like Buddhism and Islam.

SM 560. (HIST384, SAST260) Modern History of Pakistan. (C) Staff.

This course is designed as an introduction to the contemporary history of Afghanistan and Pakistan, with an emphasis on the intertwined history of both countries; their other regional neighbors; and global politics. The course focuses on global trends such as empire, nationalism, the Cold War, superpower competition, and transnational Islamism. At the same time, participants will explore how local people viewed their lives amidst these trends, and how local dynamics on this northwestern fringe of the Subcontinent changed the face of global politics. The readings supplement political and economic history with primary sources drawn from popular poetry, oral narrative, and memoir. Finally, we'll be following current events in the region, and placing them in their sociohistorical context. Therefore, there are two main goals for this course: (1) to introduce the specific history of Afghanistan and Pakistan up to present, and (2) to introduce typologies of social institutions and events, assisting class participants to develop their own frameworks for interpreting current events in the region after the end of the course.

562. (SAST262) The Making of Medieval India. (C) Ali.

This course will provide an in-depth understanding of South Asia in what is often called its 'medieval' period--from the rise of the great temple kingdoms until the end of the Delhi Sultanate in the sixteenth century (c. 500 CE - c. 1500 CE). This millennium is arguably one of the most transformative in South Asia's history, a period when many of its most distinctive social and cultural features evolved. The course will provide both an overview of the period as well as an introduction to major interpretations and types of sources (textual, visual, and archaeological). The

focus throughout the course will be on the heterogeneous development of states, societies and cultures with special attention to long-term processes of transformation. One set of themes explored will be largely social and economic, focusing on the development of agrarian and peasant societies, aristocracies and intellectuals, as well as the role of mercantile, pastoralist, nomadic and forest-living groups. Another set of themes will explore cultural transformation, including the development, transformation and interaction of religious practices, the emergence of cosmopolitan and regional literary cultures, and the rise of distinctive urban, courtly, and rural worldviews.

Special themes of discussion may include violence and manners, material cultures, religious conflict, devotional religion and gender relations.

584. (SAST284) International Relations of the United States and Asia. (C) Frankel.

This course is one of the first arising out of scholarship on cold war international history. It draws on declassified government documents and other archival records to provide a window into the world-view of decision-makers who need to make national security policy based on incomplete information about ambiguous threats. The materials reveal a great deal about the importance of divergent historical perspectives and strategic cultures in the foreign policy-making process. The main focus of the course is on the intersection of the cold war and the rise of Asian nationalism. At the core of the analysis is the clash between America's global strategy of military containment against the Soviet Union and the assertion of Indian, and Chinese nationalism, concerned with preventing the United States from succeeding to Great Britain's imperial rule. The course examines new patterns of US-India and US-China relations in the post-cold war period. This is primarily a lecture course, but the course web is a critical element of class work.

SM 589. (ANTH189, SAST189) Islam in Modern South Asia. Tareen.

This course introduces students to Islam in modern South Asia, with a particular focus on the development of 'new' Muslim religious idioms, orientations, pedagogies and movements in 19th and 20th century South Asia. This course is divided into three parts. In the first part of this course, students are provided with an overview of: Muslim institutions and spaces in pre-colonial South Asia, the historical emergence of South Asia as a prominent

global center of Islam, and the development of Urdu as an Islamic idiom. The second and main part of this course introduces students to academic literature concerning sophisticated encounters between the Muslim elite in north India and modern political and technological developments. The intimate interactions of the 'Mullah' and the 'Englishman' from the 19th to 20th century will thus be revealed to students. This part focuses upon, on the one hand, the role of Islam and pious Muslims in the colonial army, and on the other hand, Muslim initiatives to educate an Islamic 'modernism', 'traditionalism', 'fundamentalism' and 'Sufism', and appropriate print technologies for the creation of public spheres. Students will be introduced to historical scholarship revelatory of how these Muslim pedagogies and print initiatives were based upon sophisticated transcultural networks and exchange.

In the third part of this course, students will be encouraged to engage with contemporary literature on South Asian Muslim political philosophy and nationalism, and the transcultural intellectual exchanges that produced key Muslim political ideologies.

Graduate Courses - 600 to 999

SM 604. (ANTH503, ARTH104, SAST204, URB5504) Neoliberalism and the City. (C) Mitchell.

Over fifty percent of the world's population now lives in cities. Neoliberalism—the ideology and accompanying policies and practices that champion the shifting of political decision making from the public sector to the private sector—has been widely recognized as having shown dramatic growth worldwide since the 1970s. It has also been widely regarded as a product of globalization. This course traces the history of neo-liberalism in global context with particular attention to neoliberalism's relationship to cities, and exam the role that urban growth has played in spurring neoliberal policies and practices. It asks how policy makers, voters, and private interest worldwide have responded to the growth of urban poverty and slums, challenges withing urban public education, unequal resource distribution, environmental pressures experienced within urban sanitation and waste disposal systems, and increased demands for municipal services like water, electricity, and transport infrastructures, and examined the rise of public-private partnerships, gated communities, initiatives to privatized education and municipal services, and efforts to relocate slum-dwellers and

beautify cities as explicit strategies for attracting "global capital".

The course also asks how the recent rise of neoliberal policies and practices differs from earlier market-driven and private sector led forms of political governance. The British and Dutch East India Companies are two famous examples of joint stock companies that assumed administrative and political roles over their colonies. How did the rise of these colonial relationships differ from current neoliberal shifts. Readings will draw heavily from ethnographic and urban studies, scholarship on South Asia, as well as Latin America, South Africa, the Middle East, Europe, and North America, exploring what each of these specific contexts has to teach us more generally about the relationship between urbanization, global capitalism, public and private sectors, and political processes and decision making.

SM 610. (ENGL591) Topics in South Asian Cinema. (C) Staff.

In this course we will focus on post colonial global modernity as they are imaged through cinema. Foregrounding the concept of affect, we will consider topics such as: the role of mass affect and mass culture; nationalism, community, sentimentality and nostalgia; film technology and film industry development as productive of a history of the senses; affect and the (gendered and racialized) subject and body, film genres and development of post colonial modernism; style; cinephilia and production of publics; representat ions of popular religiosity; and the relationship between feeling and ideology. We will examine films that suggest particular affective states. Our study will be interdisciplinary and readings will draw on fields of cinema, area studies as well as anthropology, philosophy and history.

SM 632. (RELS632, SAST332) Hinduism and Colonial Modernity. (C) Soneji.

This seminar deals with the question of modernity in South Asia, with a specific focus on the construction, dissemination, and politicization of Hinduism in nineteenth and twentieth century India. It focuses on three central heuristic lenses--namely those of European imperialism, Orientalism, and nationalism--to study modernity and its discontents. What was at stake in the encounter between colonial modernity and India's religions in nineteenth and early twentieth centuries? How did colonial and native discourses on "reform" and "revival" shape Indian religions as we understand them today?

How is modern "Hinduism" inextricably hinged to early forms of cultural transnationalism, Orientalism, and incipient forms of nationalism? This seminar approaches questions such as these and others, with an eye to understanding how nineteenth and early twentieth century discourses continue to shape contemporary understandings of Hinduism in deep and highly politicized ways.

SM 633. (RELS643, RELS743) THE PERSIAN INTELLECTUAL TRADITION. (C) Elias.

What makes Persian culture distinctive within broader Islamic intellectual history, and what constitutes the historical and geographical boundary of the Persianate intellectual and cultural zone? These questions lie at the center of inquiry in this seminar in which participants will read and discuss a broad range of works from the 11th to the 20th centuries. Readings will include works on philosophy and language, Sufi epic poems, religious and cultural geographies, accounts of natural and manufactured wonders, urban and political histories, as well as other kinds of texts. All readings will be in English for the regular meeting of the seminar; students with a reading knowledge of Persian and an interest in participating in an additional meeting to read the assignments in their original language should register for the higher of the two numbers listed for this course.

SM 640. (RELS670, SAST340) Religious Bodies and Sex in South Asia. (C) Sevea.

This graduate-level course introduces students to the writings of key religious scholars in modern South Asia who associated the regeneration of Hinduism, Islam, and Sikhism with the cultivation of bodies and sexual practices. Particular attention will be paid towards religious texts produced in modern India, Pakistan and Bangladesh pertaining to sexual bodies, exercises and health; celibacy; body-building; the transmission of sexual knowledge; and the political roles of the 'Hindu', 'Muslim' and 'Sikh' body. In this course, students will be encouraged to engage a range of sources including religio-sexual manuals, autobiographies, novels, speeches, pamphlets, official records, recipes and films. Moreover, students will be introduced to the academic literature on South Asian religious scholars and 'sex gurus' in South and Southeast Asia; religious sexuality in South Asia, Southeast Asia, the Middle East and Europe; and, the transcultural literary networks that led to

the production of religio-sexual texts in modern South Asia.

680. (PSCI511, SAST380) Society & Politics in India. (C) Frankel.

This course analyzes the changing relations between social dominance and state power from the time of colonial rule. Special emphasis is placed on ways in which the historical-social context of India at Independence shaped the democratic institutions introduced, and reciprocally, how social hierarchy and preferences for group rights have been affected by egalitarian and liberal principles of governance. Within this analytical framework, religion, caste, class and ethnicity are examined as process and as social formation leading to the emergence of new identities and conflicting ideas of political community associated with them.

SM 700. Proseminar in South Asia: History & Society. (M) Ali.

This course will focus on the history of Islam in Southern India, Sri Lanka and Indian Southeast Asia from its early history to contemporary times. The study of Islam in South Asia has been overwhelmingly oriented toward northern India and more recently the states of the upper Deccan. The goal of this course will be to develop an historical awareness of Islam in South India and Sri Lanka, taking note of the distinctive dynamics that have shaped Muslim communities in these regions. It will also explore the linkages between these regions and the wider world of the Indian Ocean, with a particular focus on Southeast Asia. Themes covered in the course will include the emergence of Muslim trade diasporas in South India, Islamization, the articulation of caste and Islam, the role of Islam in peasant revolt, Sufism in South India, Muslim trading and Sufi networks in the Indian Ocean, Muslim monuments and material culture, inter-religious and inter-ethnic dynamics, modern Muslim identities, and minority politics in South India and Sri Lanka.

SM 701. (ANTH711, HIST702) Methodology Seminar: Topics. (C) Patel.

Topics vary

SM 704. (ANTH706) State, Society and Culture in South Asia. (M) Mitchell.

This interdisciplinary course introduces graduate students to both classic and more recent theoretical frameworks used in understanding and analyzing society, culture, and the state, with particular reference to South Asia. Topics include

bureaucracy and the state; economic liberalization and political transformations; land, law, and eminent domain; capital, banking, and credit; kinship, community, and approaches to the concept of identity (including caste, nation, language, and religion); and the environment, politics, and urban and rural ecologies. Particular emphasis will be placed on the ways in which recent ethnographic and historical monographs have positioned their interventions in relation to broader debates and scholarship, both within South Asia scholarship and more generally.

Particular attention will be devoted to the different material forms through which publics have been imagined, addressed, and brought into being within specific historical moments and contexts (including each student's own areas of research interest). Although the course will pay particular attention to the unpacking and application of these concepts, debates, and issues as they pertain to South Asia, readings will be of use to students studying similar issues in other parts of the world.

SM 710. Seminar Classical Indian Studies. (D) Staff. Prerequisite(s): Two years of Sanskrit is required.

SM 711. (ARTH711) Seminar in Indian Art. (C) Meister.

Research seminar. Topics change.

Spring 2016: We will examine the practice and symbolism of South Asian Architecture with case studies of how to build and how to make buildings meaningful.

SM 760. Seminar in Modern South Asian History. (C) Staff.

Centered on major recent work and on writing by class participants, this seminar is primarily for Ph.D. candidates doing research on South Asia. Each week we read the equivalent of one book and meet to discuss its contribution to South Asian historiography. Each participant will submit a major piece of writing for discussion and will assign auxiliary readings to be read with their own work for one class meeting.

SM 769. (ENGL769, GSWS769, PSCI683) Feminist Theory.

Specific topic varies. Dissent is a key word in our world today--from the Arab Spring to the American Fall, we have seen expressions of political disobedience and protest around the world. It is more urgent than ever to consider what dissent might mean, what shapes it has taken historically, what connection might exist between it and

literature, and what futures are possible. We will read key critical and theoretical work alongside some powerful, tender and controversial writings and films (largely but not exclusively produced in the postcolonial world), to inquire into the politics and poetics of governance and dissent. Students are invited to make connections with other historical and geographical contexts, and explore the different forms of dissent individual, collective, urban, rural, nationalist, pan-nationalist, religious, marxist, or feminist, to name but a few. We will pay special attention to different performances of dissent at a popular, mass or individual level. We will think about the social and cultural channels attention to different performances of dissent at a popular, mass or

See the English Department's website at www.english.upenn.edu for a complete description of the current offerings.

Students are invited to make connections with other historical and geographical contexts, as we explore the different forms of dissent—individual, collective, urban, rural, nationalist, pan-nationalist, religious, marxist, or feminist, to name but a few. We will pay special attention to different performances of dissent at a popular, mass, or individual level. We will think about the social and cultural channels through which dissent is expressed, spread or quelled, how it might morph, or become obsolete, or give rise to new forms of disobedience.

999. Independent Study. (C) Staff.

Directed Study for Graduates

Language Courses

500. Beginning Hindi-Urdu, For Graduate Students ONLY. Staff.

Beginning in the fall semester of 2014 Beginning Hindi and Beginning Urdu will be merged into a single course, Beginning Hindi-Urdu. At the beginning level spoken Urdu and Hindi are identical except for a few minor points. The broad outline of the course will thus remain the same as that of the current Beginning Hindi and Urdu courses. Students will learn to communicate with the language in a variety of everyday culturally authentic situations. Additional Urdu and Hindi culture will be integrated through authentic materials such as Bollywood film and music clips, and simple written texts. There will be equal emphasis on both scripts and cultures, and parallel written materials will be provided in both scripts. Students will be expected to develop first-year proficiency in one script of their choice, and will be

encouraged to learn both. By merging the two courses students will be exposed to a broader range of linguistic and cultural styles, and students will thus have the opportunity to develop a deeper understanding that more closely resembles that of Hindi and Urdu native speakers. Please direct further inquiries to Josh Pien at jprien@sas.upenn.edu

520. Intermediate Hindi I for Graduate Students Only. Staff.

In Intermediate Hindi the student continues to develop the four language skills, with an emphasis on real-life situations—through hearing and practicing conversation on everyday topics, reading a variety of authentic texts ranging from advertisements to short stories, watching segments of current films, and carrying out short research projects using Hindi sources. There is a strong emphasis on vocabulary development and on using contextually appropriate styles of spoken and written Hindi.

530. Advanced Hindi for Graduate Students Only. Staff.

400. Beginning Hindi-Urdu Online (Startalk). (E) Pien, J. This is a summer online course known also as Startalk.

This introductory, proficiency-based course covers the core content of first-year Hindi-Urdu. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, listening, reading, and writing), but there is a special focus on developing speaking and listening skills. Students will also develop literacy skills in one script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All classes are interactive and students acquire the language by using it in realistic contexts. Culture is introduced through various authentic materials including Bollywood songs.

This program has a special application process. Please visit our website (<https://www.southasiacenter.upenn.edu/startalk>) for more information on the program and how to apply.

403. Beginning Bengali. (E) Banerjee. Offered through Penn Language Center. This is a two-semester course.

This course introduces students to colloquial Bengali. It gives equal emphasis to each of the four skills, reading, writing, listening, and speaking. Language will be studied in the context of socio-cultural aspects of West Bengal and Bangladesh. Besides lessons from the text, a major portion of the syllabus will be based on

topics drawn from films, cultural events, festivals, food, and religion.

SM 406. (PERS112, PERS512) Beginning Pashtu Part II. (B) Staff.

Prerequisite(s): Beginning Pashtu Part I or equivalent ascertained through placement test or permission of instructor. Offered through Penn Language Center.

SM 408. Beginning Kannada Part II. (E) Swaminathan. Prerequisite(s): Beginning Kannada Part II or equivalent ascertained through placement test or permission of instructor. Offered through Penn Language Center.

This is a systematic introduction to the Kannada language and culture for beginners. The course aims at developing listening and comprehension and a real life interactive speaking ability in a variety of everyday topics. The Kannada script is introduced from the beginning and the language is presented in its socio-cultural context for achieving a meaningful and operational control of the language. Students acquire basic rules for structural and socio-cultural appropriateness. Students learn vocabulary related to a variety of topics during the semester. Class activities include watching videos, role-playing, language games and group work. Evaluation is based on class participation, performance in quizzes and tests and completed assignments.

421. Intermediate Urdu. (E) Menai. Offered through Penn Language Center.

In Intermediate Urdu, the curriculum focuses on the development of reading, listening and speaking skills. Although there are short assignments for writing in Urdu, the emphasis on developing writing as a skill is not part of the course objectives. Authentic texts in the three skills include conversations, short stories, current events, articles, films and plays. There is a continuous emphasis on vocabulary development and students are expected to add about five hundred new words to their active vocabulary per semester. The rules of grammar for structural accuracy and socialcultural propriety are parts of the regular curriculum. Class activities include students' short presentations, role-plays, singing and conversations. There are weekly assignments and quizzes, a mid-term and a final examination. The final evaluation will rest on class participation, performance in quizzes and tests, and completed assignments. This is a two-semester course.

SM 426. (PERS114, PERS514) Intermediate Pashtu Part II. (E) Staff. Prerequisite(s): Intermediate Pashtu Part II or equivalent ascertained through placement test or permission of instructor. Offered through Penn Language Center.

SM 428. Intermediate Kannada Part II. (B) Sundaram. Prerequisite(s): Intermediate Kannada Part II or equivalent ascertained through placement test or permission of instructor. Offered through Penn Language Center.

SM 480. (COML507) Readings in Sanskrit Literature. (C) Staff.

Readings of selected texts.

462. Urdu Topics Course. Menai.

BENGALI (BENG)

403. Beginning Bengali Part I. (A) Banerjee.

This course introduces students to colloquial Bengali. It gives equal emphasis to each of the four skills, reading, writing, listening, and speaking. Language will be studied in the context of socio-cultural aspects of West Bengal and Bangladesh. Besides lessons from the text, a major portion of the syllabus will be based on topics drawn from films, cultural events, festivals, food, and religion.

SM 404. Beginning Bengali Part II. (B) Banerjee. Prerequisite(s): Beginning Bengali Part I or equivalent ascertained through placement test or permission of instructor.

This course introduces students to colloquial Bengali. It gives equal emphasis to each of the four skills, reading, writing, listening, and speaking. Language will be studied in the context of socio-cultural aspects of West Bengal and Bangladesh. Besides lessons from the text, a major portion of the syllabus will be based on topics drawn from films, cultural events, festivals, food, and religion.

423. Intermediate Bengali Part I. (E) Banerjee.

This course develops the student's prior knowledge of Bengali. An attempt is made to gear the syllabus to meet the specific needs of students. The focus of the course is to develop the oral and aural skills of the learner as well as improve writing skills and reading strategies. Emphasis is also laid on increasing the sociolinguistic and strategic competence of the learners so that they will be able to function in the target culture. Besides discussions on various aspects of Bengali life, students read some

short literary texts in the original Bengali version.

SM 424. Intermediate Bengali Part II. (B) Banerjee. Prerequisite(s): Intermediate Bengali Part I or equivalent ascertained through placement test or permission of instructor.

This course develops the student's prior knowledge of Bengali. An attempt is made to gear the syllabus to meet the specific needs of students. The focus of the course is to develop the oral and aural skills of the learner as well as improve writing skills and reading strategies. Emphasis is also laid on increasing the sociolinguistic and strategic competence of the learners so that they will be able to function in the target culture. Besides discussions on various aspects of Bengali life, students read some short literary texts in the original Bengali version.

433. Advanced Bengali. (M) Banerjee.S.

The objective of this course is to develop the proficiency level of the students in all the four skills by using different genres of Bengali literature (West Bengal and Bangladesh) s its course content. Reading comprehension will be enhanced as students learn to understand authentic texts at the linguistic and cultural level while discussion (description, narration, supporting opinion) on issues related to these texts aim to hone the oral and written skills. Students will be allowed to work on individual texts & topics (with the instructors permission) for their final project. This is a one semester course.

Spring: Bengali Popular Culture- This course aims to use as its content, different aspects of popular Bengali culture as they are represented in media (film, television, magazines, newspapers) and arts (fashion, local and regional art, music). Students will be expected to develop their linguistic skills (description, narration, supporting opinion) and socio-cultural awareness while interacting with these varied types of texts. Students will be allowed to work on individual texts & topics (with the instructors permission) for their final project. This is a one semester course.

GUJARATI (GUJR)

402. Beginning Gujarati Part I. (A) Staff.

During the first year of Gujarati, major emphasis is placed on acquiring phonetics, grammatical patterns, and basic vocabulary. These goals are accomplished through guided drills and conversations accompanied by formal instruction on

Gujarati grammar. From the outset, students are also taught the Gujarati writing system, which is used for all materials. By the end of the first year of instruction, student should be able to carry on coherent conversations on selected topics, read simple texts and compose short pieces in Gujarati.

SM 403. Beginning Gujarati Part II. (B) Staff. Prerequisite(s): Beginning Gujarati Part I or equivalent ascertained through placement test or permission of instructor.

During the first year of Gujarati, major emphasis is placed on acquiring phonetics, grammatical patterns, and basic vocabulary. These goals are accomplished through guided drills and conversations accompanied by formal instruction on Gujarati grammar. From the outset, students are also taught the Gujarati writing system, which is used for all materials. By the end of the first year of instruction, student should be able to carry on coherent conversations on selected topics, read simple texts and compose short pieces in Gujarati.

422. Intermediate Gujarati Part I. (E) Staff.

This course is designed as a continuation of beginning Gujarati. The course objectives are to expand the mastery of sentence patterns and augment vocabulary and its usage through intensive grammar and comprehension exercises. A special emphasis will be placed on greater cultural awareness. Upon completion of this course students should be able to interact socially with added confidence and greater expressiveness. Students should also experience a great improvement in their comprehension of spoken and written language. During the second year of Gujarati, students are introduced to progressively more difficult reading selections, along with additional instructions in the formal grammar of the language. To maintain and develop oral and aural command of the language, readings are discussed in Gujarati. To develop their writing abilities, students are also expected to compose short essays on their readings.

423. Intermediate Gujarati Part II. (B) Suthar, B. Prerequisite(s): Intermediate Gujarati Part I or equivalent ascertained through placement test or permission of instructor.

*HINDI (HIND)***400. (NELC401, URDU401) Beginning Hindi-Urdu Part I. (A) Pien.**

This introductory course core proficiency in Hindi-Urdu up to the intermediate level. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, listening, reading, and writing) and all three models of communication (interpersonal, presentational, interpretive). Students will develop literacy skills in the primary script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All meetings are interactive and students acquire the language by using it in realistic contexts. Culture is embedded in the activities and is also introduced through various authentic materials.

401. (NELC402, URDU402) Beginning Hindi-Urdu Part II. (B) Pien.

Prerequisite(s): Beginning Hindi or Urdu Part I or equivalent ascertained through placement test or permission of instructor.

This introductory course core proficiency in Hindi-Urdu up to the intermediate level. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, listening, reading, and writing) and all three models of communication (interpersonal, presentational, interpretive). Students will develop literacy skills in the primary script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All meetings are interactive and students acquire the language by using it in realistic contexts. Culture is embedded in the activities and is also introduced through various authentic materials.

420. Intermediate Hindi Part I. (E) Pien.

In Intermediate Hindi the student continues to develop the four language skills, with an emphasis on real-life situations--through hearing and practicing conversation on everyday topics, reading a variety of authentic texts ranging from advertisements to short stories, watching segments of current films, and carrying out short research projects using Hindi sources. There is a strong emphasis on vocabulary development and on using contextually appropriate styles of spoken and written Hindi.

421. Intermediate Hindi Part II. (B) Pien.

Prerequisite(s): Intermediate Hindi Part I or equivalent ascertained through placement test or permission of instructor.

In Intermediate Hindi the student continues to develop the four language skills, with an emphasis on real-life situations--through hearing and practicing conversation on everyday topics, reading a variety of authentic texts ranging from advertisements to short stories, watching segments of current films, and carrying out short research projects using Hindi sources. There is a strong emphasis on vocabulary development and on using contextually appropriate styles of spoken and written Hindi.

430. Advanced Hindi. (A) Pien.

Advanced Hindi aims at systematically developing higher level linguistic functions and cultural nuances. Students learn to describe, narrate and support opinions in informal and formal styles. The objective of the course is to promote a meaningful interaction with written literature and with native speakers in a socially acceptable manner in a variety of simple and complicated situations. A variety of authentic materials are used, such as short stories, plays, newspapers, magazines, videos, television and radio broadcasts, and interviews. Every semester the course materials and foci vary depending on the needs and interests of students in the class.

456. Accelerated Hindi. (C) Pien.

This is a fast paced course for learners who have some degree of listening and speaking skills in Hindi, but have minimal or no literacy skills. In the Fall semester students acquire basic reading and writing skills and advance their speaking and listening skills to be able to communicate on everyday personal and social topics in Hindi. Grammatical accuracy and sociocultural appropriateness are emphasized throughout the course. In the Spring semester, students continue to advance all the linguistic skills (speaking, listening, reading and writing) and functions (narration, description, supporting opinion) with a special focus on reading and writing. Students develop formal vocabulary through authentic oral and written input rich in content and culture.

*MALAYALAM (MLYM)***408. Beginning Malayalam Part I. (A) Kurichi.**

This course is designed to develop skills in reading, writing, and speaking. It will focus on the alphabet, basic vocabulary, nouns (cases, gender and number), verbs and their

basic tenses, numerals, rules of joining words, adjectives, adverbs, and sentence structure. Guided conversation will be a part of every class. Students will receive considerable training in speaking and writing their own sentences and paragraphs.

SM 409. Beginning Malayalam Part II. (B) Kurichi.

Prerequisite(s): Beginning Malayalam Part I or equivalent ascertained through placement test or permission of instructor.

This course is designed to develop skills in reading, writing, and speaking. It will focus on the alphabet, basic vocabulary, nouns (cases, gender and number), verbs and their basic tenses, numerals, rules of joining words, adjectives, adverbs, and sentence structure. Guided conversation will be a part of every class. Students will receive considerable training in speaking and writing their own sentences and paragraphs.

428. Intermediate Malayalam Part I. (E) Kurichi.

This course is designed to further the language skills learned in Beginning Malayalam. Direct and indirect speech, passive voice, postpositions, and rules of joining words, will be included. Reading and discussion of texts from current Malayalam literature (essays, narration, short stories, and poems) will be a major portion of the course.

SM 429. Intermediate Malayalam Part II. (B) Kurichi.

Prerequisite(s): Intermediate Malayalam Part I or equivalent ascertained through placement exam or permission of instructor.

This course is designed to further the language skills learned in Beginning Malayalam. Direct and indirect speech, passive voice, postpositions, and rules of joining words, will be included. Reading and discussion of texts from current Malayalam literature (essays, narration, short stories, and poems) will be a major portion of the course.

*PANJABI (PUNJ)***404. Beginning Punjabi Part I. (A) Gahunia.**

This course emphasizes speaking and reading skills in Punjabi. Upon completion of this course, students should be able to interact meaningfully and in a socially acceptable manner in a variety of simple situations involving everyday conversational topics. Further, students should be able to read and understand the main idea and most details of simple connected texts. This course will utilize authentic printed, audio, and video

materials and will provide opportunities for natural communication both within and outside the classroom.

SM 405. Beginning Punjabi Part II. (B) Gahunia. Prerequisite(s): Beginning Punjabi Part II or equivalent ascertained through placement test or permission of instructor.

This course emphasizes speaking and reading skills in Punjabi. Upon completion of this course, students should be able to interact meaningfully and in a socially acceptable manner in a variety of simple situations involving everyday conversational topics. Further, students should be able to read and understand the main idea and most details of simple connected texts. This course will utilize authentic printed, audio, and video materials and will provide opportunities for natural communication both within and outside the classroom.

424. Intermediate Punjabi Part I. (E) Gahunia.

This course is designed as a continuation of Beginning Punjabi, but can also be taken by anyone who can demonstrate a similar level in proficiency of the language. The course objectives are to expand the mastery of sentence patterns and augment vocabulary and its usage through intensive grammar review and comprehension exercises. A special emphasis will also be placed on greater cultural awareness. Upon completion of this course students should be able to interact socially with added confidence and greater expressiveness. Students should also experience a great improvement in their comprehension of the spoken and written language.

SM 425. Intermediate Punjabi Part II. (B) Gahunia. Prerequisite(s): Intermediate Punjabi Part I or equivalent ascertained through placement test or permission of instructor.

This course is designed as a continuation of Beginning Punjabi, but can also be taken by anyone who can demonstrate a similar level in proficiency of the language. The course objectives are to expand the mastery of sentence patterns and augment vocabulary and its usage through intensive grammar review and comprehension exercises. A special emphasis will also be placed on greater cultural awareness. Upon completion of this course students should be able to interact socially with added confidence and greater expressiveness. Students should also experience a great improvement in their comprehension of the spoken and written language.

434. Advanced Punjabi. (A) Gahunia. This course is offered through the Penn Language Center.

The objective of the course is to improve proficiency in speaking, listening, reading and writing. This course addresses the individual needs of learners. The focus of the course will be to study the interpretation of written and oral materials on social, political and contemporary cultural topics from modern literature, television, internet, magazines, newspaper, music and film. Weekly written compositions and oral presentations will be assigned. Grading will be based on this.

SANSKRIT (SKRT)

460. Sanskrit 1st Year, Part I. (A)

Obrock. Contact professor to discuss actual class times that work for all students.

During the first semester of beginning Sanskrit, students will be introduced to the script, phonetics, and grammar of the Sanskrit language. By the end of the semester they will be able to begin to read Sanskrit texts and compose Sanskrit sentences in addition to carrying out simple conversation. They will build the requisite skills to read, by the second semester, simple inscriptions and sections from texts like the Ramayana, the Mahabharata, the Bhagavad Gita, Pancatantra, and Yoga Sutra. Students will also be introduced to many features of Sanskrit culture.

SM 461. Sanskrit 1st Year Part II.

Obrock. Prerequisite(s): Beginning Sanskrit Part I or equivalent ascertained through placement test or permission of instructor.

During the first semester of beginning Sanskrit, students will be introduced to the script, phonetics, and grammar of the Sanskrit language. By the end of the semester they will be able to begin to read Sanskrit texts and compose Sanskrit sentences in addition to carrying out simple conversation. They will build the requisite skills to read, by the second semester, simple inscriptions and sections from texts like the Ramayana, the Mahabharata, the Bhagavad Gita, Pancatantra, and Yoga Sutra. Students will also be introduced to many features of Sanskrit culture.

470. Sanskrit 2nd Year Part I. (G)

Obrock. Prerequisite(s): SKRT 460. Contact professor to discuss actual class times that work for all students.

This course will lead students to consolidate their knowledge of Sanskrit grammar and increase their familiarity with Sanskrit literature of all kinds, including epic, literary, philosophical, and narrative genres of texts. It will also introduce

students to the study and reading of inscriptional materials.

SM 471. Intermediate Sanskrit Part II.

Obrock. Prerequisite(s): Intermediate Sanskrit II or equivalent ascertained through placement test or permission of instructor.

This course will lead students to consolidate their knowledge of Sanskrit grammar and increase their familiarity with Sanskrit literature of all kinds, including epic, literary, philosophical, and narrative genres of texts. It will also introduce students to the study and reading of inscriptional materials.

TAMIL (TAML)

406. Beginning Tamil Part I. (A)

Renganathan.

This course introduces students to colloquial Tamil and formal written Tamil. A balance between production skills, viz. writing and speaking, and comprehension skills, viz. reading and listening, will be maintained throughout the course. Reading materials will introduce students to customs and habits of the Tamil speakers in Tamil Nadu, Sri Lanka, Malaysia, and Singapore. Lessons in the class will be based on a set of Tamil learning software made available at the MMETS Server. This software will be customized to the needs of students.

SM 407. Beginning Tamil Part II. (B)

Renganathan. Prerequisite(s): Beginning Tamil Part I or equivalent ascertained through placement test or permission of instructor.

This course introduces students to colloquial Tamil and formal written Tamil. A balance between production skills, viz. writing and speaking, and comprehension skills, viz. reading and listening, will be maintained throughout the course. Reading materials will introduce students to customs and habits of the Tamil speakers in Tamil Nadu, Sri Lanka, Malaysia, and Singapore. Lessons in the class will be based on a set of Tamil learning software made available at the MMETS Server. This software will be customized to the needs of students.

426. Intermediate Tamil Part I. (E)

Renganathan.

This course develops the skills obtained either from the Beginning Tamil course or from students' prior exposure to Tamil. The emphasis will be on using the language in actual environments both in spoken medium and in written medium. Multimedia materials such as audio and video facilities will be used extensively to provide students an exposure to the Tamil

culture and customs. Besides improving their speech and writing, students will also be introduced gradually to Tamil literature, which has two thousand years of literary history. The learning process in this course will be facilitated by appropriate software equipped with multimedia facilities.

SM 427. Intermediate Tamil Part II.

(B) Renganathan. Prerequisite(s): Intermediate Tamil Part II or equivalent ascertained through placement test or permission of instructor.

This course develops the skills obtained either from the Beginning Tamil course or from students' prior exposure to Tamil. The emphasis will be on using the language in actual environments both in spoken medium and in written medium.

Multimedia materials such as audio and video facilities will be used extensively to provide students an exposure to the Tamil culture and customs. Besides improving their speech and writing, students will also be introduced gradually to Tamil literature, which has two thousand years of literary history. The learning process in this course will be facilitated by appropriate software equipped with multimedia facilities.

TELUGU (TELU)

409. Beginning Telugu Part I. (A)

Magier.

This course introduces students to the basic Telugu language skills, with an emphasis on practice for listening comprehension, and speaking Telugu. Combined with exposure to Andhra culture, the classroom and online work in this course will enable interested students to pursue further language study in Telugu at the intermediate level, to carry out field research in Andhra Pradesh, or to prepare them to advanced work in Telugu Studies. An introduction to Telugu like this will also be useful for students who just want to acquire basic Telugu language skills for learning a new language or being able to communicate with Telugu speaking family and friends or to enjoy Telugu music and films.

410. Beginning Telugu Part II. (B)

Magier. Prerequisite(s): Beginning Telugu Part I or equivalent ascertained through placement test or permission of instructor.

429. Intermediate Telugu Part I. (E)

Magier. Prerequisite(s): Beginning Telugu Part II or equivalent ascertained through placement test or permission of instructor.

This course is designed to expand the students' basic language skills in Telugu in order to allow them to function adequately

in a Telugu-speaking environment, to immerse themselves in the rich Andhra culture, and to accomplish a more advanced competency in an interesting foreign language. This course is also aimed at students planning to conduct scholarly research in Telugu history, literature or society, or humanities or social science fieldwork in Telugu speaking areas.

SM 430. Intermediate Telugu Part II.

Sundaram. Prerequisite(s): Intermediate Telugu Part II or equivalent ascertained through placement test or permission of instructor.

This course is designed to expand the students' basic language skills in Telugu in order to allow them to function adequately in a Telugu-speaking environment, to immerse themselves in the rich Andhra culture, and to accomplish a more advanced competency in an interesting foreign language. This course is also aimed at students planning to conduct scholarly research in Telugu history, literature or society, or humanities or social science fieldwork in Telugu speaking areas.

URDU (URDU)

401. (HIND400, NELC401) Beginning Urdu-Hindi, Part I. (E) Pien.

This introductory course core proficiency in Hindi-Urdu up to the intermediate level. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, listening, reading, and writing) and all three models of communication (interpersonal, presentational, interpretive). Students will develop literacy skills in the primary script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All meetings are interactive and students acquire the language by using it in realistic contexts. Culture is embedded in the activities and is also introduced through various authentic materials.

402. (HIND401, NELC402) Beginning Hindi-Urdu Part II. Pien.

This introductory course core proficiency in Hindi-Urdu up to the intermediate level. It is designed for students with little or no prior exposure to Hindi or Urdu. The course covers all four language skills (speaking, listening, reading, and writing) and all three models of communication (interpersonal, presentational, interpretive). Students will develop literacy skills in the primary script of their choice (Hindi or Urdu script). All written materials will be provided in both scripts. All meetings are interactive and students acquire the

language by using it in realistic contexts. Culture is embedded in the activities and is also introduced through various authentic materials.

421. (NELC421) Intermediate Urdu Part I. (E) Menai.

This course allows students to continue improving their Urdu proficiency while also gaining a broad foundational understanding of Urdu society and culture throughout South Asia. The course provides students the tools needed to handle a variety of authentic written and spoken Urdu sources including film, music, media reports, folk tales, and simple literature. Student will also continue to increase their speaking and writing proficiency to be able to discuss a broad range of concrete, real-world topics. The course is designed for students with one year previous Urdu or Hindi study or the equivalent proficiency. Students with speaking ability in Urdu or Hindi but without reading/writing skills are encouraged to contact the instructor for placement.

SM 422. (NELC422) Intermediate Urdu Part II. Menai.

This continuing second-year course allows students to continue improving their Urdu proficiency while also gaining a broad foundational understanding of Urdu society and culture throughout South Asia. The course provides students the tools needed to handle a variety of authentic written and spoken Urdu sources including film, music, media reports, folk tales, and simple literature. Students will also continue to increase their speaking and writing proficiency to be able to discuss a broad range of concrete, real-world topics. The course is designed for students with one year of previous Urdu or Hindi study or the equivalent proficiency.

431. (NELC431) Advanced Urdu. (A) Menai. Intermediate reading, writing and speaking skills in Urdu are recommended but please contact the instructor if you are unsure of your eligibility and want to discuss further. Topic changes each semester.

This course is designed to give in-depth exposure to some of the finest works of classical and modern Urdu prose and poetry along with the historical and socio-political trends they represent. Figures covered range from Ghalib (b.1797) to Faiz, Fehmida Riaz, and post 9/11 Urdu prose and poetry. The course is open to both undergraduates and graduate students, subject to having intermediate level proficiency. The course is repeatable, and the content changes every semester. Multimedia content such as music, videos, blogs

etc. will be actively incorporated. Every effort will be made to accommodate individual interests. Students are encouraged to contact the instructor with any questions, or if they are unsure about eligibility.

Other Languages. Pashtu, Kannada, and Marathi are under (SAST)

405. (PERS111, PERS511) Beginning Pashtu I. (B) Staff. Offered through Penn Language Center.

407. Beginning Kannada Part I. (A) Swaminathan. Offered through Penn Language Center.

This is a systematic introduction to the Kannada language and culture for beginners. The course aims at developing listening and comprehension and a real life interactive speaking ability in a variety of everyday topics. The Kannada script is introduced from the beginning and the language is presented in its socio-cultural context for achieving a meaningful and operational control of the language. Students acquire basic rules for structural

and socio-cultural appropriateness. Students learn vocabulary related to a variety of topics during the semester. Class activities include watching videos, role-playing, language games and group work. Evaluation is based on class participation, performance in quizzes and tests and completed assignments.

410. Beginning Marathi Part I. (A) Ranade. Offered through Penn Language Center.

The first year course in Marathi begins with learning the Devnagari script which is common for other important languages like Hindi and Nepali. With proper emphasis on grammar, vocabulary, and phonetics, the syllabus will see the student becoming able to speak conversational Marathi, read Marathi data from the Internet, and compose simple short essays on selected topics.

411. Beginning Marathi Part II. (B) Ranade. Offered through Penn Language Center.

SM 412. Intermediate Marathi Part I. (A) Ranade. Prerequisite(s): Beginning Marathi Part II or equivalent ascertained through placement test or permission of instructor.

SM 413. Intermediate Marathi Part II. (B) Ranade. Prerequisite(s): Intermediate Marathi Part II or equivalent ascertained through placement test or permission of instructor.

425. (PERS113, PERS513) Intermediate Pashtu Part I. (A) Staff. Offered through Penn Language Center.

427. Intermediate Kannada Part II. (A) Sundaram. Offered through Penn Language Center.

445. (PERS116, PERS516) Advanced Pashtu Prose Literature. (C) Staff. Offered through Penn Language Center.

447. Advanced Kannada: Selected Topics. (C) Rajagopalan.

494. Early Marathi. (C) Staff. Offered through Penn Language Center.

STATISTICS (WH) {STAT}

101. Introductory Business

Statistics. (C) Staff. Prerequisite(s): MATH 104 or equivalent; successful completion of STAT 101 is prerequisite to STAT 102.

Data summaries and descriptive statistics; introduction to a statistical computer package; Probability: distributions, expectation, variance, covariance, portfolios, central limit theorem; statistical inference of univariate data; Statistical inference for bivariate data: inference for intrinsically linear simple regression models. This course will have a business focus, but is not inappropriate for students in the college.

102. Introductory Business

Statistics. (C) Staff. Prerequisite(s): STAT 101.

Continuation of STAT 101. A thorough treatment of multiple regression, model selection, analysis of variance, linear logistic regression; introduction to time series. Business applications.

L/R 111. Introductory Statistics. (C)

Staff. Prerequisite(s): High school algebra. Introduction to concepts in probability. Basic statistical inference procedures of estimation, confidence intervals and hypothesis testing directed towards applications in science and medicine. The use of the JMP statistical package.

112. Introductory Statistics. (C) Staff. Prerequisite(s): STAT 111.

Further development of the material in STAT 111, in particular the analysis of variance, multiple regression, non-parametric procedures and the analysis of categorical data. Data analysis via statistical packages.

405. (STAT705) Statistical

Computing with R. (C) Waterman. Prerequisite(s): STAT 102 or STAT 112 or STAT 430.

The goal of this course is to introduce students to the R programming language and related eco-system. This course will provide a skill-set that is in demand in both the research and business environments. In addition, R is a platform that is used and required in other advanced classes taught at Wharton, so that this class will prepare students for these higher level classes and electives.

422. (STAT722) Predictive Analytics for Business. (C) Staff. Prerequisite(s): STAT 102 or STAT 112 or STAT 431.

This course follows from the introductory regression classes, STAT 102, STAT 112, and STAT 431 for undergraduates and STAT 613 for MBAs.

It extends the ideas from regression modeling, focusing on the core business task of predictive analytics as applied to realistic business related data sets. In particular it introduces automated model selection tools, such as stepwise regression and various current model selection criteria such as AIC and BIC. It delves into classification methodologies such as logistic regression. It also introduces classification and regression trees (CART) and the popular predictive methodology known as the random forest.

By the end of the course the student will be familiar with and have applied all these tools and will be ready to use them in a work setting. The methodologies can all be implemented in either the JMP or R software packages.

430. (STAT510) Probability. (C) Staff. Prerequisite(s): MATH 114 or MATH 115 or equivalent.

Discrete and continuous sample spaces and probability; random variables, distributions, independence; expectation and generating functions; Markov chains and recurrence theory.

431. (STAT511) Statistical Inference. (C) Staff. Prerequisite(s): STAT 430.

Graphical displays; one- and two-sample confidence intervals; one- and two-sample hypothesis tests; one- and two-way ANOVA; simple and multiple linear least-squares regression; nonlinear regression; variable selection; logistic regression; categorical data analysis; goodness-of-fit tests. A methodology course. This course does not have business applications but has significant overlap with STAT 101 and 102.

432. (STAT512) Mathematical

Statistics. (B) Staff. Prerequisite(s): STAT 430 or 510 or equivalent.

An introduction to the mathematical theory of statistics. Estimation, with a focus on properties of sufficient statistics and maximum likelihood estimators. Hypothesis testing, with a focus on likelihood ratio tests and the consequent development of "t" tests and hypothesis tests in regression and ANOVA. Nonparametric procedures.

433. (STAT533) Stochastic Processes. (C) Steele, Mossel.

Prerequisite(s): STAT 430, or permission of instructor.

An introduction to Stochastic Processes. The primary focus is on Markov Chains, Martingales and Gaussian Processes. We will discuss many interesting applications from physics to economics. Topics may include: simulations of path functions, game theory and linear programming, stochastic optimization, Brownian Motion and Black-Scholes.

434. Financial and Economic Time Series. (A) Foster. Prerequisite(s): STAT 101 - 102 or 431. Familiarity with linear algebra.

This course will introduce students to the time series methods and practices which are most relevant to the analysis of financial and economic data. After an introduction to the statistical programming language R the course develops an autoregressive models, moving average models, and their generalizations. The course then develops models that are closely focused on particular features of financial series such as the challenges of time dependent volatility.

435. (STAT711) Forecasting Methods for Management. (C) Shaman.

Prerequisite(s): STAT 102 or 112 or 431.

This course provides an introduction to the wide range of techniques available for statistical forecasting. Qualitative techniques, smoothing and decomposition of time series, regression, adaptive methods, autoregressive-moving average modeling, and ARCH and GARCH formulations will be surveyed. The emphasis will be on applications, rather than technical foundations and derivations. The techniques will be studied critically, with examination of their usefulness and limitations.

436. Stochastic Modeling. (A) Staff.

Prerequisite(s): STAT 430 or equivalent or permission of instructor.

This course will allow the student to solve stochastic control problems, arising in economics and finance, as well as in engineering and biology. We will study probability, Markov processes, martingales, and Ito calculus mainly at an intuitive, non-rigorous, level. The student will be expected to put in a lot of effort, but the return will be proportional.

451. (BEPP451, BEPP851, STAT851) Fundamentals of Actuarial Science I.

(A) Lemaire. Prerequisite(s): MATH 104, STAT 430. STAT 430 can be taken concurrently with BEPP 451/STAT 451.

This course is the usual entry point in the actuarial science program. It is required for students who plan to concentrate or minor in actuarial science. It can also be taken by others interested in the mathematics of personal finance and the use of mortality tables. For future actuaries, it provides the necessary knowledge of compound interest and its applications, and basic life contingencies definition to be used throughout their studies. Non-actuaries will be introduced to practical applications of finance mathematics, such as loan amortization and bond pricing, and premium calculation of typical life insurance contracts. Main topics include annuities, loans and bonds; basic principles of life contingencies and determination of annuity and insurance benefits and premiums.

452. (BEPP452, BEPP852, STAT852) Fundamentals of Actuarial Science II.

(B) Lemaire. Prerequisite(s): BEPP 451/STAT 451.

This specialized course is usually only taken by Wharton students who plan to concentrate in actuarial science and Penn students who plan to minor in actuarial mathematics. It provides a comprehensive analysis of advanced life contingencies problems such as reserving, multiple life functions, multiple decrement theory with application to the valuation of pension plans.

453. (BEPP453, BEPP853, STAT853) Actuarial Statistics.

(A) Lemaire. Prerequisite(s): STAT 430.

This course covers models for insurer's losses, and applications of Markov chains. Poisson processes, including extensions such as non-homogeneous, compound, and mixed Poisson processes are studied in detail. The compound model is then used to establish the distribution of losses. An extensive section on Markov chains provides the theory to forecast future states of the process, as well as numerous applications of Markov chains to insurance, finance, and genetics. The course is abundantly illustrated by examples from the insurance and finance literature. While most of the students taking the course are future actuaries, other students interested in applications of statistics may discover in class many fascinating applications of stochastic processes and Markov chains.

454. (BEPP454, BEPP854, STAT854) Applied Statistical Methods for Actuaries.

(B) Lemaire. Prerequisite(s): STAT 430, STAT 431.

One half of the course is devoted to the study of time series, including ARIMA modeling and forecasting. The other half studies modifications in random variables due to deductibles, co-payments, policy limits, and elements of simulation. This course is a possible entry point into the actuarial science program. The Society of Actuaries has approved STAT 854 for VEE credit on the topic of time series.

470. (STAT503, STAT770) Data Analytics and Statistical Computing.

(C) Buja. Prerequisite(s): STAT 101 and 102 or STAT 111 and 112 or STAT 431.

This course will introduce a high-level programming language, called R, that is widely used for statistical data analysis. Using R, we will study and practice the following methodologies: data cleaning, feature extraction; web scrubbing, text analysis; data visualization; fitting statistical models; simulation of probability distributions and statistical models; statistical inference methods that use simulations (bootstrap, permutation tests).

471. (STAT571, STAT701) Modern Data Mining.

(C) Zhao. Prerequisite(s): STAT 102 or 112 or 431.

Modern Data Mining: Statistics or Data Science has been evolving rapidly to keep up with the modern world. While classical multiple regression and logistic regression technique continue to be the major tools we go beyond to include methods built on top of linear models such as LASSO and Ridge regression. Contemporary methods such as KNN (K nearest neighbor), Random Forest, Support Vector Machines, Principal Component Analyses (PCA), the bootstrap and others are also covered. Text mining especially through PCA is another topic of the course. While learning all the techniques, we keep in mind that our goal is to tackle real problems. Not only do we go through a large collection of interesting, challenging real-life data sets but we also learn how to use the free, powerful software "R" in connection with each of the methods exposed in the class.

472. (STAT712) Decision Making under Uncertainty.

(M) Stine. Prerequisite(s): STAT 102 or 112 or 431.

Fundamentals of modern decision analysis with emphasis on managerial decision making under uncertainty and risk. The basic topics of decision analysis are examined. These include payoffs and losses, utility and subjective probability,

the value of information, Bayesian analysis, inference and decision making. Examples are presented to illustrate the ideas and methods. Some of these involve: choices among investment alternatives; marketing a new product; health care decisions; and costs, benefits, and sample size in surveys.

473. (STAT953) Bioinformatics.

(B) Ewens. Prerequisite(s): Good background in probability and statistics at the approximate level of STAT 430 and STAT 431. The material will follow the class textbook, Ewens and Grant "Statistical Models in Bioinformatics", Springer, second edition, 2005.

An introduction to the use of statistical methods in the increasingly important scientific areas of genomics and bioinformatics. The topics to be covered will be decided in detail after the initial class meeting, but will be taken from the following: - background probability theory of one and many random variables and of events; background statistical inference theory, classical and Bayesian; Poisson processes and Markov chain; the analysis of one and many DNA sequences, in particular shotgun sequencing, pattern analysis and motifs; substitution matrices, general random walk theory, advanced statistical inference, the theory of BLAST, hidden Markov models, microarray analysis, evolutionary models.

474. (CRIM474, STAT974) Modern Regression for the Social, Behavioral and Biological Sciences.

(B) Berk. Prerequisite(s): STAT 102 or 112 or equivalent.

Function estimation and data exploration using extensions of regression analysis: smoothers, semiparametric and nonparametric regression, and supervised machine learning. Conceptual foundations are addressed as well as hands-on use for data analysis.

475. (BSTA775, STAT920) Sample Survey Design.

(M) Small. Prerequisite(s): STAT 102 or 112 or 431.

This course will cover the design and analysis of sample surveys. Topics include simple sampling, stratified sampling, cluster sampling, graphics, regression analysis using complex surveys and methods for handling nonresponse bias.

476. (MKTG476, MKTG776) Applied Probability Models in Marketing. (C)

Fader. Prerequisite(s): High comfort level with basic integral calculus, and recent exposure to a formal course in probability and statistics such as STAT 430 is strongly recommended.

This course will expose students to the theoretical and empirical "building blocks" that will allow them to construct, estimate, and interpret powerful models of customer behavior. Over the years, researchers and practitioners have used these models for a wide variety of applications, such as new product sales, forecasting, analyses of media usage, and targeted marketing programs. Other disciplines have seen equally broad utilization of these techniques. The course will be entirely lecture-based with a strong emphasis on real-time problem solving. Most sessions will feature sophisticated numerical investigations using Microsoft Excel. Much of the material is highly technical.

500. (BSTA550, PSYC611) Applied Regression and Analysis of Variance. (A)

Rosenbaum. Prerequisite(s): STAT 102 or 112 or equivalent.

An applied graduate level course in multiple regression and analysis of variance for students who have completed an undergraduate course in basic statistical methods. Emphasis is on practical methods of data analysis and their interpretation. Covers model building, general linear hypothesis, residual analysis, leverage and influence, one-way anova, two-way anova, factorial anova. Primarily for doctoral students in the managerial, behavioral, social and health sciences.

501. (PSYC612) Introduction to Nonparametric Methods and Log-linear Models. (B)

Rosenbaum. Prerequisite(s): STAT 102 or 112 or equivalent.

An applied graduate level course for students who have completed an undergraduate course in basic statistical methods. Covers two unrelated topics: loglinear and logit models for discrete data and nonparametric methods for nonnormal data. Emphasis is on practical methods of data analysis and their interpretation. Primarily for doctoral students in the managerial, behavioral, social and health sciences. May be taken before STAT 500 with permission of instructor.

502. (EDUC683) Survey Methods and Design. (B)

Boruch. Prerequisite(s): STAT 520 or equivalent.

Methods and design of field surveys in education, the social sciences, criminal justice research, and other areas. It treats methods of eliciting information through household, mail, telephone surveys, methods of assuring privacy, enhancing cooperation rates and related matters. Fundamentals of statistical sampling and sample design are covered. Much of the course is based on contemporary surveys sponsored by the National Center for Education Statistics and other federal, state, and local agencies.

503. (STAT470, STAT770) Data Analytics and Statistical Computing. (C)

Buja. Prerequisite(s): Two courses at the statistics 400 or 500 level.

This course will introduce a high-level programming language, called R, that is widely used for statistical data analysis. Using R, we will study and practice the following methodologies: data cleaning, feature extraction; web scrubbing, text analysis; data visualization; fitting statistical models; simulation of probability distributions and statistical models; statistical inference methods that use simulations (bootstrap, permutation tests).

510. (STAT430) Probability. (C)

Brown. Prerequisite(s): A one year course in calculus.

Elements of matrix algebra. Discrete and continuous random variables and their distributions. Moments and moment generating functions. Joint distributions. Functions and transformations of random variables. Law of large numbers and the central limit theorem. Point estimation: sufficiency, maximum likelihood, minimum variance. Confidence intervals.

511. (STAT431) Statistical Inference. (C)

Staff. Prerequisite(s): STAT 510 or equivalent.

Graphical displays; one- and two-sample confidence intervals; one- and two-sample hypothesis tests; one- and two-way ANOVA; simple and multiple linear least-squares regression; nonlinear regression; variable selection; logistic regression; categorical data analysis; goodness-of-fit tests. A methodology course.

512. (STAT432) Mathematical Statistics. (B)

Staff. Prerequisite(s): STAT 430 or 510 or equivalent.

An introduction to the mathematical theory of statistics. Estimation, with a focus on properties of sufficient statistics and maximum likelihood estimators.

Hypothesis testing, with a focus on likelihood ratio tests and the consequent development of "t" tests and hypothesis tests in regression and ANOVA. Nonparametric procedures.

520. Applied Econometrics I. (A)

Shaman. Prerequisite(s): MATH 114 and MATH 312 or equivalents, and an undergraduate introduction to probability and statistics.

This is a course in econometrics for graduate students. The goal is to prepare students for empirical research by studying econometric methodology and its theoretical foundations. Students taking the course should be familiar with elementary statistical methodology and basic linear algebra, and should have some programming experience. Topics include conditional expectation and linear projection, asymptotic statistical theory, ordinary least squares estimation, the bootstrap and jackknife, instrumental variables and two-stage least squares, specification tests, systems of equations, generalized least squares, and introduction to use of linear panel data models.

521. Applied Econometrics II. (B)

Shaman. Prerequisite(s): STAT 520. This is a continuation of STAT 520.

Topics include system estimation with instrumental variables, fixed effects and random effects estimation, M-estimation, nonlinear regression, quantile regression, maximum likelihood estimation, generalized method of moments estimation, minimum distance estimation, and binary and multinomial response models. Both theory and applications will be stressed.

533. (STAT433) Stochastic Processes. (C)

Steele, Mossel. Prerequisite(s): STAT 510 or equivalent.

An introduction to Stochastic Processes. The primary focus is on Markov Chains, Martingales and Gaussian Processes. We will discuss many interesting applications from physics to economics. Topics may include: simulations of path functions, game theory and linear programming, stochastic optimization, Brownian Motion and Black-Scholes.

542. Bayesian Methods and Computation. (B)

Jensen. Prerequisite(s): STAT 430 or 510 or equivalent or permission of instructor.

Sophisticated tools for probability modeling and data analysis from the Bayesian perspective. Hierarchical models, mixture models and Monte Carlo simulation techniques.

553. Machine Learning. (B) Staff.

Prerequisite(s): STAT 510 and 512 or equivalent.

This course gives a broad overview of the machine learning and statistical pattern recognition. Some topics will be rather glanced over while others will be considered in-depth. Topics include supervised learning (generative/discriminative models, parametric/nonparametric, neural networks, support vector machines, boosting, bagging, random forests), online learning (prediction with expert advice), learning theory (VC dimension, generalization bounds, bias/variance trade-off), unsupervised learning (clustering, k-means, PCA, ICA). Most of the course concentrates on the supervised and online learning.

571. (STAT471, STAT701) Modern Data Mining. (C) Zhao. Prerequisite(s):

Two courses at the statistics 400 or 500 level or permission from instructor.

Modern Data Mining: Statistics or Data Science has been evolving rapidly to keep up with the modern world. While classical multiple regression and logistic regression technique continue to be the major tools we go beyond to include methods built on top of linear models such as LASSO and Ridge regression. Contemporary methods such as KNN (K nearest neighbor), Random Forest, Support Vector Machines, Principal Component Analyses (PCA), the bootstrap and others are also covered. Text mining especially through PCA is another topic of the course. While learning all the techniques, we keep in mind that our goal is to tackle real problems. Not only do we go through a large collection of interesting, challenging real-life data sets but we also learn how to use the free, powerful software "R" in connection with each of the methods exposed in the class.

701. (STAT471, STAT571) Modern Data Mining. (C) Zhao. Prerequisite(s): STAT 613 or equivalent.

Modern Data Mining: Statistics or Data Science has been evolving rapidly to keep up with the modern world. While classical multiple regression and logistic regression technique continue to be the major tools we go beyond to include methods built on top of linear models such as LASSO and Ridge regression. Contemporary methods such as KNN (K nearest neighbor), Random Forest, Support Vector Machines, Principal Component Analyses (PCA), the bootstrap and others are also covered. Text mining especially through PCA is another topic of the course. While learning all the techniques, we keep in mind that our goal

is to tackle real problems. Not only do we go through a large collection of interesting, challenging real-life data sets but we also learn how to use the free, powerful software "R" in connection with each of the methods exposed in the class.

705. (STAT405) Statistical Computing with R. (C) Waterman.

Prerequisite(s): STAT 613 or STAT 621 or waiving the Statistics Core completely.

The goal of this course is to introduce students to the R programming language and related eco-system. This course will provide a skill-set that is in demand in both the research and business environments. In addition, R is a platform that is used and required in other advanced classes taught at Wharton, so that this class will prepare students for these higher level classes and electives.

711. (STAT435) Forecasting Methods for Management. (C) Shaman.

Prerequisite(s): STAT 613 or equivalent.

This course provides an introduction to the wide range of techniques available for statistical forecasting. Qualitative techniques, smoothing and decomposition of time series, regression, adaptive methods, autoregressive-moving average modeling, and ARCH and GARCH formulations will be surveyed. The emphasis will be on applications, rather than technical foundations and derivations. The techniques will be studied critically, with examination of their usefulness and limitations.

712. (STAT472) Decision Making Under Uncertainty. (M) Stine.

Prerequisite(s): STAT 520 or STAT 613 or equivalent.

Fundamentals of modern decision analysis with emphasis on managerial decision making under uncertainty and risk. The basic topics of decision analysis are examined. These include payoffs and losses, utility and subjective probability, the value of information, Bayesian analysis, inference and decision making. Examples are presented to illustrate the ideas and methods. Some of these involve: choices among investment alternatives; marketing a new product; health care decisions; and costs, benefits, and sample size in surveys.

722. (STAT422) Predictive Analytics for Business (formerly STAT 622).

(C) Staff. Prerequisite(s): STAT 613 or STAT 621 or having waived the statistics core completely.

This course follows from the introductory regression classes, STAT 102, STAT 112,

and STAT 431 for undergraduates and STAT 613 for MBAs.

It extends the ideas from regression modeling, focusing on the core business task of predictive analytics as applied to realistic business related data sets. In particular it introduces automated model selection tools, such as stepwise regression and various current model selection criteria such as AIC and BIC. It delves into classification methodologies such as logistic regression. It also introduces classification and regression trees (CART) and the popular predictive methodology known as the random forest.

By the end of the course the student will be familiar with and have applied all these tools and will be ready to use them in a work setting. The methodologies can all be implemented in either the JMP or R software packages.

770. (STAT470, STAT503) Data Analytics and Statistical Computing. (C) Buja. Prerequisite(s): STAT 613 or

STAT 621 or waiving the Statistics Core completely.

This course will introduce a high-level programming language, called R, that is widely used for statistical data analysis. Using R, we will study and practice the following methodologies: data cleaning, feature extraction; web scrubbing, text analysis; data visualization; fitting statistical models; simulation of probability distributions and statistical models; statistical inference methods that use simulations (bootstrap, permutation tests).

851. (BEPP451, BEPP851, STAT451) Fundamentals of Actuarial Science I.

(A) Lemaire. Prerequisite(s): One semester of calculus.

This course is the usual entry point in the actuarial science program. It is required for students who plan to concentrate or minor in actuarial science. It can also be taken by others interested in the mathematics of personal finance and the use of mortality tables. For future actuaries, it provides the necessary knowledge of compound interest and its applications, and basic life contingencies definition to be used throughout their studies. Non-actuaries will be introduced to practical applications of finance mathematics, such as loan amortization and bond pricing, and premium calculation of typical life insurance contracts. Main topics include annuities, loans and bonds; basic principles of life contingencies and determination of annuity and insurance benefits and premiums.

852. (BEPP452, BEPP852, STAT452) Fundamentals of Actuarial Science II. (B) Lemaire. Prerequisite(s): STAT 851 or BEPP 851.

This specialized course is usually only taken by Wharton students who plan to concentrate in actuarial science and Penn students who plan to minor in actuarial mathematics. It provides a comprehensive analysis of advanced life contingencies problems such as reserving, multiple life functions, multiple decrement theory with application to the valuation of pension plans.

853. (BEPP453, BEPP853, STAT453) Actuarial Statistics. (A) Lemaire.

Prerequisite(s): Two semesters of Statistics.

This course covers models for insurer's losses, and applications of Markov chains. Poisson processes, including extensions such as non-homogeneous, compound, and mixed Poisson processes are studied in detail. The compound model is then used to establish the distribution of losses. An extensive section on Markov chains provides the theory to forecast future states of the process, as well as numerous applications of Markov chains to insurance, finance, and genetics. The course is abundantly illustrated by examples from the insurance and finance literature. While most of the students taking the course are future actuaries, other students interested in applications of statistics may discover in class many fascinating applications of stochastic processes and Markov chains.

854. (BEPP454, BEPP854, STAT454) Applied Statistical Methods for Actuaries. (B) Lemaire. Prerequisite(s): One semester of probability.

One half of the course is devoted to the study of time series, including ARIMA modeling and forecasting. The other half studies modifications in random variables due to deductibles, co-payments, policy limits, and elements of simulation. This course is a possible entry point into the actuarial science program. The Society of Actuaries has approved STAT 854 for VEE credit on the topic of time series.

900. Advanced Probability. (M) Staff. Prerequisite(s): STAT 531 or equivalent.

The topics covered will change from year to year. Typical topics include the theory of large deviations, percolation theory, particle systems, and probabilistic learning theory.

901. (OIDD931) Stochastic Processes II. (M) Staff. Prerequisite(s): OPIM 930 or equivalent.

Martingales, optimal stopping, Wald's lemma, age-dependent branching processes, stochastic integration, Ito's lemma.

910. (BSTA852) Forecasting and Time Series Analysis. (K) Stine.

Prerequisite(s): STAT 520 or 541 or equivalent.

Fourier analysis of data, stationary time series, properties of autoregressive moving average models and estimation of their parameters, spectral analysis, forecasting. Discussion of applications to problems in economics, engineering, physical science, and life science.

915. Nonparametric Inference. (M)

Staff. Prerequisite(s): STAT 520 or equivalent.

Statistical inference when the functional form of the distribution is not specified. Nonparametric function estimation, density estimation, survival analysis, contingency tables, association, and efficiency.

920. (BSTA775, STAT475) Sample Survey Methods. (M) Small.

Prerequisite(s): STAT 520, 541 or 550 or permission of instructor.

This course will cover the design and analysis of sample surveys. Topics include simple random sampling, stratified sampling, cluster sampling, graphics, regression analysis using complex surveys and methods for handling nonresponse bias.

921. Observational Studies. (A) Small. Prerequisite(s): STAT 520, 541 or 550 or permission of instructor.

This course will cover statistical methods for the design and analysis of observational studies. Topics will include the potential outcomes framework for causal inference; randomized experiments; matching and propensity score methods for controlling confounding in observational studies; tests of hidden bias; sensitivity analysis; and instrumental variables.

924. Advanced Experimental Design. (M) Staff. Prerequisite(s): STAT 552.

Factorial designs, confounding, incomplete blocks, fractional factorials, random and mixed models, response surfaces.

925. Multivariate Analysis: Theory. (M) Ma. Prerequisite(s): STAT 530, 550 and 552 or permission of instructor.

This is a course that prepares PhD students in statistics for research in multivariate

statistics and high dimensional statistical inference. Topics from classical multivariate statistics include the multivariate normal distribution and the Wishart distribution; estimation and hypothesis testing of mean vectors and covariance matrices; principal component analysis, canonical correlation analysis and discriminant analysis; etc. Topics from modern multivariate statistics include the Marcenko-Pastur law, the Tracy-Widom law, nonparametric estimation and hypothesis testing of high-dimensional covariance matrices, high-dimensional principal component analysis, etc.

926. Multivariate Analysis: Methodology. (M) Buja. Prerequisite(s): STAT 541 or permission of instructor.

This is a course that prepares PhD students in statistics for research in multivariate statistics and data visualization. The emphasis will be on a deep conceptual understanding of multivariate methods to the point where students will propose variations and extensions to existing methods or whole new approaches to problems previously solved by classical methods. Topics include: principal component analysis, canonical correlation analysis, generalized canonical analysis; nonlinear extensions of multivariate methods based on optimal transformations of quantitative variables and optimal scaling of categorical variables; shrinkage- and sparsity-based extensions to classical methods; clustering methods of the k-means and hierarchical varieties; multidimensional scaling, graph drawing, and manifold estimation.

927. (BSTA854) Bayesian Statistical Theory and Methods. (M) Zhao.

Prerequisite(s): STAT 551.

A course in Bayesian statistical theory and methods. Axiomatic developments of utility theory and subjective probability, and elements of Bayesian theory.

928. Statistical Learning Theory. (B)

Rakhlin. Prerequisite(s): Probability and linear algebra.

Statistical learning theory studies the statistical aspects of machine learning and automated reasoning, through the use of (sampled) data. In particular, the focus is on characterizing the generalization ability of learning algorithms in terms of how well they perform on "new" data when trained on some given data set. The focus of the course is on: providing the fundamental tools used in this analysis; understanding the performance of widely used learning algorithms; understanding the "art" of designing good algorithms, both in terms of

statistical and computational properties. Potential topics include: empirical process theory; online learning; stochastic optimization; margin based algorithms; feature selection; concentration of measure.

930. (MATH546) Probability. (A)

Steele. Prerequisite(s): STAT 430 or 510 or equivalent.

Measure theory and foundations of Probability theory. Zero-one Laws. Probability inequalities. Weak and strong laws of large numbers. Central limit theorems and the use of characteristic functions. Rates of convergence. Introduction to Martingales and random walk.

932. (BSTA653) Survival Models and Analysis Methods for Medical and Biological Data. (M) Zhao.

Prerequisite(s): STAT 551.

Parametric models, nonparametric methods for one-and two-sample problems, proportional hazards model, inference based on ranks. Problems will be considered from clinical trials, toxicology and tumorigenicity studies, and epidemiological studies.

933. Analysis of Categorical Data. (M)

Rosenbaum. Prerequisite(s): STAT 541 and 551.

Likelihood equations for log-linear models, properties of maximum likelihood estimates, exact and approximate conditional inference, computing algorithms, weighted least squares methods, and conditional independence and log-linear models. Applied topics, including interpretation of log-linear and logit model parameters, smoothing of tables, goodness-of-fit, and incomplete contingency tables.

940. Advanced Inference I. (M) Staff.

Prerequisite(s): STAT 551.

The topics covered will change from year to year. Typical topics include sequential analysis, nonparametric function estimation, robustness, bootstrapping and applications decision theory, likelihood methods, and mixture models.

941. Advanced Inference II. (M) Staff.

Prerequisite(s): STAT 940.

A continuation of STAT 940.

SM 950. Quantitative Consulting Seminar. (B)

Waterman. Prerequisite(s): No prerequisites, but please talk to the instructor to determine your fit with the course.

The seminar offers the opportunity for small teams of MBAs to work on "real life"

quantitative consulting projects. These projects are drawn from both business and University sources. The emphasis is on providing a relevant and comprehensible solution to the client's problem. In-class brainstorming sessions, client presentations and written reports give students the opportunity to test for the existence of an intersection between their quantitative and communication skills.

SM 951. Statistical Practice II. (M)

Staff. Prerequisite(s): STAT 540, 541, 550 and 551.

A continuation of STAT 950.

953. (STAT473) Bioinformatics. (B)

Ewens. Prerequisite(s): Good background in probability and statistics at the approximate level of STAT 430 and STAT 431. The material will follow the class textbook, Ewens and Grant "Statistical Models in Bioinformatics", Springer, second edition, 2005.

An introduction to the use of statistical methods in the increasingly important scientific areas of genomics and bioinformatics. The topics to be covered will be decided in detail after the initial class meeting, but will be taken from the following: - background probability theory of one and many random variables and of events; background statistical inference theory, classical and Bayesian; Poisson processes and Markov chain; the analysis of one and many DNA sequences, in particular shotgun sequencing, pattern analysis and motifs; substitution matrices, general random walk theory, advanced statistical inference, the theory of BLAST, hidden Markov models, microarray analysis, evolutionary models.

955. Stochastic Calculus and Financial Applications. (A) Steele.

Prerequisite(s): STAT 530 or equivalent.

Selected topics in the theory of probability and stochastic processes.

956. Financial and Economic Time Series. (B) Steele.

Prerequisite(s): A graduate course in statistics or econometrics. Familiarity with linear algebra.

This graduate course introduces students to the time series methods and practices which are most relevant to the analysis of financial and economic data. The course will address both theoretical and empirical issues. Extensive use will be made of the S-Plus Statistical Language, but no previous experience of S-Plus will be required. The course begins with a quick review of ARIMA models. Most of the course is devoted to ARCH, GARCH, threshold,

switching Markov, state space, and nonlinear models.

SM 957. Seminar in Data Analysis. (M)

Staff. Prerequisite(s): STAT 541, 551, 552, 925, or equivalents; permission of instructor.

Survey of methods for the analysis of large unstructured data sets: detection of outliers, Winsorizing, graphical techniques, robust estimators, multivariate problems.

961. Statistical Methodology. (A)

Buja. Prerequisite(s): STAT 431 or 520 or equivalent; a solid course in linear algebra and a programming language.

This is a course that prepares 1st year PhD students in statistics for a research career. This is not an applied statistics course. Topics covered include: linear models and their high-dimensional geometry, statistical inference illustrated with linear models, diagnostics for linear models, bootstrap and permutation inference, principal component analysis, smoothing and cross-validation.

970. Mathematical Statistics. (A)

Small. Prerequisite(s): STAT 431 or 520 or equivalent; comfort with mathematical proofs (e.g., MATH 360).

Decision theory and statistical optimality criteria, sufficiency, point estimation and hypothesis testing methods and theory.

972. (BSTA820) Advanced Topics in Mathematical Statistics. (C) Cai.

Prerequisite(s): STAT 970 and 971.

A continuation of STAT 970.

974. (CRIM474, STAT474) Modern Regression for the Social, Behavioral and Biological Sciences. (B)

Berk. Prerequisite(s): Two statistics courses at the graduate school level including a solid foundation in the generalized linear model.

Function estimation and data exploration using extensions of regression analysis: smoothers, semiparametric and nonparametric regression, and supervised machine learning. Conceptual foundations are addressed as well as hands-on use for data analysis.

SM 991. Seminar in Advanced Application of Statistics. (C) Staff.

This seminar will be taken by doctoral candidates after the completion of most of their coursework. Topics vary from year to year and are chosen from advance probability, statistical inference, robust methods, and decision theory with principal emphasis on applications.

024. PENN SUMMER ABROAD. (L)

100. PENN SUMMER GLOBAL INST.

**TELECOMMUNICATIONS
(EG) {TCOM}**

601. Advanced Networking Modeling and Analysis. (M) Prerequisite(s): TCOM 501.

Traffic management and call admission: traffic characterization traffic shaping, admission control, statistical multiplexing,

effective bandwidth. Scheduling: fair queuing, rate-controlled service disciplines. Buffer management: pushout, threshold, random early detection, sharing mechanisms (complete partitioning, complete sharing, hybrids), coupling buffer management and scheduling. Markov decision process and application in resource allocation (memory, bandwidth allocation). Switching: input queuing, output queuing, shared memory, combined

input/output queuing. Maximum throughput in input queued switches, emulating output queuing with input queuing via speedup. Building larger switches: CLOS networks, banyan networks, etc. TCP modeling.

SM 770. TCOM Seminar. (M)

THEATRE ARTS (AS) {THAR}

073. (CIMS073, ENGL073) LIT AND VISUAL ART.

SM 076. Theatre in Philadelphia. (M) Malague and Schlatter. Frequently offered as a Freshmen Seminar.

This course will investigate the state of the contemporary, non-profit theatre culture of Philadelphia by examining the history, artistic mission, and current production work of selected city theatre companies. This course will also explore the creative process of theatre-making as undertaken by these theatres through the reading of plays being produced by them this fall, through an analysis of the collaborative contribution of the playwright, director, actors, and designers to the creation of a production, and, finally, through attendance at those productions mounted by the theatre companies under investigation. The members of the class will write individual essays responding to these productions, do research and give group presentations on other Philadelphia theatre companies, and participate daily in a spirited dialogue about the vitality, level of artistic accomplishment, and cultural/social value of contemporary theatre in Philadelphia

100. Introduction to Theatre Arts. (C) Arts & Letters Sector. All Classes. Malague.

An introduction to different approaches to understanding and analyzing performance, representational theatre, and non-representational theatre, using as test cases both dramatic scripts and live performance. Different aspects of theatre art and theatrical process (acting, design, audience, musical theatre) will be taught by guest lecturers drawn from the Theatre Arts faculty and local professionals.

101. (ENGL087) Theatre, History, Culture 1: Classical to Middle Class. Arts & Letters Sector. All Classes.

This course investigates the history of theatre practice in Europe and Asia from Fifth-Century Athens to roughly the end of the Eighteenth Century. In addition to analyzing major dramatic works, this course examines the evolution of production methods - scenography, acting, costuming, theatre architecture - across cultures and key socio-historical moments. Readings will be drawn from historical research, theoretical writings, plays and contemporary social documents. A particular focus will be on the integral role

that the theatre plays as a cultural institution in the ongoing civic life of major cities. The course approaches theatre as broadly interdisciplinary and examines its intersection with religious practice, political developments, national identity, geography, the visual arts and the urban landscape.

102. (ENGL097) Theatre, History, Culture 2 : Romantics, Realists and Revolutionaries. Arts & Letters Sector. All Classes.

This course investigates the history of theatre practice from the end of the Eighteenth-Century to the present, with an emphasis on interplay of mainstream practices with the newly emerging aesthetics of acting, scenography, and theatrical theory, and the interplay of popular entertainment and audiences with the self-defined aesthetic elitism of the Avant Garde. Among the aesthetics and phenomena we will examine are romanticism and melodrama; bourgeois realism and revolutionary naturalism; emotional-realist acting; the reaction against realism; political theatre; physical theatre; theatre and media; non-dramatic theatre; and theatre that challenges long-standing categories of national identity, empire, gender, and sexuality.

SM 114. (ENGL114) Playwriting Workshop. (B) Staff.

This course is designed as a hands-on workshop in the art and craft of dramatic writing. It involves the study of existing plays, the systematic exploration of such elements as storymaking, plot, structure, theme, character, dialogue, setting, etc.; and most importantly, the development of students' own plays through a series of written assignments and in-class exercises. Since a great deal of this work takes place in class -- through lectures, discussions, spontaneous writing exercises, and the reading of student work -- weekly attendance and active participation is crucial.

SM 120. Introduction to Acting. (C) Ferguson, Malague, Schlatter, and Staff. Required of all Theatre Arts Majors.

Rooted in the system devised by Constantine Stanislavsky, but incorporating a wide variety of approaches, including improvisation, this courtesies students step by step through the practical work an actor must do to live and behave truthfully on-stage. Beginning with relaxation and physical exercise, interactive games, and ensemble building, students then learn and put into practice basic acting techniques, including sensory work, the principles of

action, objectives, given circumstances, etc. The semester culminates in the performance of a scene or scenes, most often from a play from the Realist tradition. This course strongly stresses a commitment to actor work and responsibility to one's fellow actors. Practical work is supplemented by readings from Stanislavsky and a variety of other acting theorists that may include Uta Hagen, Robert Cohen, Stella Adler, among others. Students are required to submit short essays over the course of the semester in response to the readings and in preparation for their final scene project.

SM 121. Introduction to Directing. (C) Ferguson, Malague, Mazer, Schlatter. Required of all Theatre Arts Majors.

This class will introduce the basic principals of stage directing, beginning with the fundamentals of three-dimensional storytelling in script and character analysis. The aim of this course is to provide students with a basic knowledge of directing through an introduction to the functional tools of the craft. Classes provide lectures and practical work in dealing with topics such as the function of the director, analyzing a script, visual composition, blocking, stage business, and working with actors. This course is a prerequisite for Advanced Directing.

125. (ENGL056) The Play: Structure, Style, Meaning. (C) Malague.

How does one read a play? Theatre, as a discipline, focuses on the traditions of live performance. In those traditions, a play text must be read not only as a piece of literature, but as a kind of "blueprint" from which productions are built. This course will introduce students to a variety of approaches to reading plays and performance pieces. Drawing on a wide range of dramatic texts from different periods and places, we will examine how plays are made, considering issues such as structure, genre, style, character, and language, as well as the use of time, space, and theatrical effects. Although the course is devoted to the reading and analysis of plays, we will also view selected live and/or filmed versions of several of the scripts we study, assessing their translation from page to stage.

SM 130. (CIMS131) Introduction to Light, Set, and Costume Design. (C) Baratta and Johnson. Required of all Theatre Arts Majors.

Design for theatre (and all of the performing arts) is a dynamic, collaborative process that engages both intellect and emotion in staging the dramatic moment.

The personal vision of the designer must navigate the often-uncharted waters of the production process, from the earliest, personal moments of design inspiration to the opening night performance. Design flows from creativity, is structured by research and theory, and is realized in living form by collaboration in the dynamic process of theatre-making. This class will integrate history, theory and practice of stage design in the interactive setting of the Collaborative Classroom in Van Pelt Library in this special interdisciplinary, active-learning course offering open to all Penn students. Group and individual projects, field visits, practical projects and guest speakers will be featured in this newly-revised course.

SM 131. Concepts of Lighting. (C)

Whinnery.

In this course we will cover the basic concepts of the art and craft of Stage Lighting Design. As a craft we will examine mechanics and technology of lighting design including light sources, power distribution, optics, and control. As an art we will explore how lighting ties together all the visual elements of a production and helps create an appropriate atmosphere that heightens the audience's understanding and enjoyment of the play. Topics include: what light is, what it does, and how light influences our perception and understanding of what we see. Exercises will help the student learn how to see and to understand how light shapes and affects the appearance people and objects on stage and in everyday life. Projects work will emphasize design theory and practice (design methods, script analysis, and drafting skills). Lighting design has its roots in the theatre. The theatre continues to be a prime training ground for lighting designers, no matter what their field.

SM 132. Costume. (B) Staff.

Costume history and design provides a framework for organized study and practice in this particular facet of theatre production. It is a one-semester course, scheduled to meet once a week for a three hour session.

SM 133. Concepts of Stage Design.

(A) Whinnery.

In this course we will cover the basic concepts of Scenic Design for the stage. Scene Design is about the look or physical appearance of the stage for a play. It reflects the way that the stage is composed artistically in regard to props, actors, shapes and color. We will explore Scene Design and the Theatre (story telling, place and local, time and period, society and culture),

Scene Design as a Visual Art (principals of design and composition, style, use of space, expression of concept) and examine how it ties together all the visual elements of a production to create an appropriate atmosphere that heightens the audience's understanding and enjoyment of the play. Topics will include: Script Analysis, Technical Production, Period Decor and Ornament; Drawing, Drafting, Model Making; and Scene Painting.

SM 170. Voice for the Actor. (A)

Doherty. Prerequisite(s): THAR 120 or equivalent.

This introductory course is designed to help the actor find new freedom and range of expression with their voice and to connect their voice to their impulse. Our focus on relaxation, sensitivity and awareness, using Fitzmaurice Voicework techniques inspired by yoga and meditation, help the student access and develop their own authentic sound. They will learn how to support their voice in a healthy way, with a view to longevity, spontaneity and flexibility of use. In this course, these kinds of vocal exercises will be applied to short, character monologues, in order to foster sensitivity to our voices and breath and to the habits and tensions we have formed around speaking in public. For an actor, reconnecting with their authentic voice is essential for an honest, connected and compelling performance. This training is also useful for anyone who wants to speak in public with confidence, sincerity and ease.

SM 171. Movement for the Actor. (B)

Fishbeck. Primarily for majors. Non-majors need permission of the instructor.

The study of the art of bodily expression throughout history in theory and practice, from Classical and Oriental, African and Latin forms of dance and movement theater to the contemporary dance and theater, including mime, modern dance, post modern dance, physical theater, film, and performance art.

214. Advanced Playwriting.

Bryan Delaney. Prerequisite(s): Thar 114 - Playwriting Workshop or Permit of the instructor.

This course is intended to reinforce and build upon the areas covered in Level 1 Playwriting (THAR-114) so that students can refine the skills they've acquired and take them to the next level. Topics covered will include techniques for approaching the first draft, in-depth characterization, dramatic structure, conflict, shaping the action, language/dialogue (incl.subtext, rhythm, imagery, exposition etc), how to analyse your own work as a playwright,

dealing with feedback, the drafting process, techniques for rewriting, collaboration (with directors, actors etc) and the 'business of the art' - working with theatres, agents, dramaturgs etc. Students will undertake to write their own one-act plays over the course. The classes will be a mixture of lecture, discussion, study of dramatic texts, writing exercises and in-class analysis of students' work.

SM 220. Advanced Acting. (M)

Ferguson, Malague, Schlatter.

Prerequisite(s): THAR 120 or by special permission of the instructor.

This course continues the work begun in the Introduction to Acting class. The specific focus of the course will be on helping students to connect more deeply and truthfully with each other on stage, freeing up the body of the actor to fulfill the physical demands of characterization, and analyzing the dramatic text to clarify objectives and focus action through unit breakdown. Attention will also be given to helping students work through specific problems and personal, creative obstacles. The basis of the course will be scene work taken from the twentieth-century repertoire (realist and non-realist plays), a classical monologue, and exercises taken from a variety of performance traditions. The course also includes readings from modern theorists and practitioners.

SM 221. Advanced Directing. (M)

Schlatter. Prerequisite(s): THAR 121.

The primary goal of this course is to develop students' practical skills and methods as stage directors. The course continues the work of Introduction to Directing, focusing on effective text analysis, communicating with actors, and use of theatrical space and movement to tell the story of the play. The course is structured as a workshop, with students presenting and discussing each other's scene work in class. Students are responsible for three large projects, and each project is presented and discussed twice, first in its workshop and then in its final stage of development. The final project involves minimally staging a one-act play for an audience. Course work is supplemented by readings on the work of major modern directors, and by viewing and writing critiques of selected theatre performances.

SM 236. (ENGL236) Topics in Renaissance Drama: Acting Shakespeare. (M) Mazer.

Prerequisite(s): THAR 120 or 121 or their equivalent. This course is not open to freshmen. Instructor permission is required.

Through specialized readings, writing assignments, and in-class acting exercises, the class will develop methods of interpreting Shakespeare's plays through theatrical practice. Topics include Shakespeare's use of soliloquy, two and three person scenes, the dramatic presentation of narrative source material, modes of defining and presenting the "worlds" of the plays, and the use of theatrical practice to establish authoritative text.

SM 240. (ENGL226, ENGL276) Advanced Topics in Theatre History. (C) Mazer. This class is the next level up from Thar 140 - Topics in Theatre History.

The purpose of this course is to introduce students to the basic materials and methods of theatre history and historiography, as applied to a particular topic, organized around a specific period, national group, or aesthetic issue. This course is concerned with methodological questions: how the history of theatre can be documented; how primary documents, secondary accounts, and historical and critical analyses can be synthesized; how the various components of the theatrical event--acting, scenography, playhouse architecture, audience composition, the financial and structural organization of the theatre industry, etc.--relate to one another; and how the theatre is socially and culturally constructed as an art form in relation to the politics and culture of a society in a particular time and place.

SM 241. (ENGL276) Actors and Acting: Page, Stage and Screen. (L)

We are all dazzled by the performances of certain actors, famous and not; nearly everyone has a favorite actor, or a favorite film or stage performance. This course will pursue the question: How do actors do what they do? We will explore acting theory and practice, examining major treatises on the acting process, the work of specific actors, and their relationship to iconic texts. Examples might include: Method acting traditions and the performances of actors such as Marlon Brando and Geraldine Page in the plays (and films) of Tennessee Williams; and Shakespearean acting as performed by legends like Laurence Olivier and John Gielgud. We will compare British and American acting traditions, and will consider the different acting styles associated with particular historical periods

and theatrical genres. Readings will include actor interviews, reviews, biographies, and selected scripts; viewing will include representative moments of brilliant acting on film, as well as live performances on the London stage. We will also plan to converse with actors we see, through class visits or attendance at talk-backs.

SM 250. (ENGL276) Theatre Workshop. (M) Various Theatre Professionals. Cross-listings are contingent upon topics offered. For the current topics contact the Theatre Arts office.

This course will examine a specific aspect of theatrical practice, taught by a visiting professional theatre artist. The course, with different topics, may be repeated for credit. Recent topics have included performance art, Jacques LeCoq technique, Suzuki, and Viewpoints.

SM 270. (ENGL256) Acting American Drama: Players and Playwrights. (M) Malague.

This course will investigate the interrelationship between American drama and American acting techniques. Connections to be considered include: The Group Theatre and Clifford Odets; The Actors Studio and Tennessee Williams; The Meisner Technique and David Mamet. We will also view the work of individual actors in filmed and live versions of the plays we study, examining the many ways in which actors collaborate with playwrights by creating roles and reinterpreting them. Readings will include the acting texts of American master teachers such as Lee Strasberg, Stella Adler, Sanford Meisner, and Uta Hagen, as well as a number of American plays. This course will include acting exercises and scene work.

SM 271. (CIMS271, ENGL274) American Musical Theatre. (M) Fox.

The American musical is an unapologetically popular art form, but many of the works that come from this tradition have advanced and contributed to the canon of theatre as a whole. In this course we will focus on both music and texts to explore ways in which the musical builds on existing theatrical traditions, as well as alters and reshapes them. Finally, it is precisely because the musical is a popular theatrical form that we can discuss changing public tastes, and the financial pressures inherent in mounting a production. Beginning with early roots in operetta, we will survey the works of prominent writers in the American musical theatre, including Kern, Berlin, Gershwin,

Porter, Rodgers, Hart, Hammerstein, Bernstein, Sondheim and others. Class lecture/discussions will be illustrated with recorded examples.

272. Twentieth Century American Theatre and Drama. (M) Schlatter.

This course examines the development of the modern American theatre from the turn of the century to the present day. Progressing decade by decade the course investigates the work of playwrights such as Eugene O'Neil, Arthur Miller, Tennessee Williams, Edward Albee, David Mamet, August Wilson and Tony Kushner, theatre companies such as the Provincetown Players and the Group Theatre, directors, actors, and designers. Some focus will also be given to major theatrical movements such as the Federal Theatre Project, Off-Broadway, regional theatre, experimental theatre of the Sixties, and feminist theatre.

SM 273. (CIMS225, ENGL292) Dark Comedy. (M) Ferguson.

From Plautus to Ionesco, dark comedies explore concepts and ideas seemingly at odds with comic traditions and structures they employ. This class uses the study of theory, history, plays and theatrical technique to explore the significance and effect of tragicomedies. Students will acquire an understanding of the genre's unique characteristics through textual and practical work and through viewing pertinent films. In addition to reading and discussing plays and criticism, students will be required to perform a scene from a tragicomic play, experimenting with and creating tragicomic effect through performance. This course will be roughly organized into three sections: historic precedents (Plautus, Shakespeare, Moliere), 19th century transitional dramas (Chekhov, Ibsen) and 20th century tragicomedies, in which the bulk of the course readings will be done (Beckett, Ionesco, Pinter, Stoppard, Henley, etc.).

SM 274. (ENGL256) Dramaturgy. (M) Mazer.

This course will examine the functions and methods of the dramaturg--the person in the theatrical process who advises the artistic collaborators on (among other things) new play development, the structure of the script, the playwright's biography and other writings, the play's first production and its subsequent production history, and the historical and regional details of the period depicted in the plays action. We will study the history of the dramaturg in the American theatre and discuss contemporary issues relating to the dramaturg's contribution to the theatrical production

(including the legal debates about the dramaturg's contribution to the creation of RENT). And, in creative teams, the class will create dramaturgical portfolios for a season of imaginary (and, potentially, a few actual) theatrical productions.

SM 275. (CIMS225, ENGL276, ENGL356, HIST247, URBS274) Advanced Topics in Theatre. (M) Fox, Ferguson, Malague, Mazer, Schlatter. This course, which may with different topics, be repeated for credit, will examine a specific aspect of theatrical practice. Recent topics have included performance art, Jacques Lecoq technique, improvisation, and puppetry.

This course will combine an intensive practical and intellectual investigation of some area of the making of theatre: performance techniques, theatrical styles, a particular period of theatre history. For the current topics contact the Theatre Arts office or visit the website.

One section of 275 every other Spring will consist of a small number of Theatre Arts majors selected by the faculty to become members of "the Edinburgh Project." This ensemble will mount a production that will be performed at the Edinburgh Festival Fringe in August. Many of the readings and exercises in this course will be geared to prepare for production; rehearsals for the project will continue after the exam period at the end of the semester.

SM 276. Theatre Criticism. (M) Mazer.

This course is both a practical writing course, and an examination of the role of the various kinds of theatre criticism and their relation to contemporary theatrical art and the theatre industry. Students (and faculty) will write (and rewrite) one theatre review a week, based on a theatre event everyone will see. Additional readings will be drawn from theatre critics and reviewers through history (Hazlitt, Shaw, Beerbohm, Agate, Clurman, Brustein, Rich, Wardle, Nightingale, Billington, and others).

SM 277. 20th Century Acting Theory and Practice. (M) Malague.

This course examines the making of theatre from the actor's perspective, focusing on major twentieth century forms and the acting techniques constructed to produce them. Through an investigation of theories of such practitioners as Stanislavsky, Brecht, and Grotowski, the class will consider contrasting models for their actor's work, and such issues as the actor's relationship to the audience, director, playwright, and text. The course will include practical performance exercises and

an exploration of representative play scripts.

SM 278. Variety Arts. (M) Fox.

This course examines a series of "variety arts" movements -- theatre in which striking visual and auditory elements are even more important than the traditional story and script. Topics generally include: Grand Guignol, the French "theatre of fear and terror," where shocking images are used to stimulate and frighten the audience; tableaux vivant, in which actors create stage pictures based on famous paintings and other visual icons; concert song and ballad, where performers interpret character and story through vocal means; American musical theatre, in which music and dance become the highest form of expression; German cabarets, where artists use a combination of song and text to create politically and culturally controversial theatre; contemporary performance art, a genre that mixes comedy, the visual arts, dance, music and text.; and more. The course also explores how these visual and auditory elements might be used by actors, directors, and designers to enhance and enrich our more traditional, text-based theatre.

SM 279. (ENGL356, GSWS279) Women in Theatre and Performance. (M) Malague. This is a topics class which include: Dangerous Women and Provocative Performance.

Theatre began as a form that excluded women entirely. The plays of ancient Greece and Elizabethan England were written and performed only by men, beginning a long tradition of theatre that represented women only from male perspectives. Has that tradition been so dominant for so long that women's voices on stage are still a novelty? This course focuses on a wide range of plays and performances by and about women; the work we read (and view) will evidence artistic attempts to represent women's lives, experiences and perspectives on the stage. Among the issues encountered and examined in these works are the roles of love, sexuality, friendship, career, community, marriage, motherhood, family, and feminism in women's lives - as well as the economic and political position(s) of women in society. The course will also offer contextual background on feminist theatre history, theory, and literature, as well as the diverse (and divergent) creative efforts of female artists to use live performance as a means of creating social and political change.

SM 320. Scene Study. (A) Malague. Prerequisite(s): THAR 220.

Scene Study is an advanced acting class that combines intensive script analysis with performance of scenes; material to be explored will be chosen specifically for the members enrolled in class. Open to students who have successfully completed Introduction to Acting, this course continues with greater emphasis on the actor's work with the text. We will study several plays together as a group, conducting Stanislavskian table work. We will then workshop and perform scenes from these plays in subsequent class sessions. In consultation with the instructor, students will identify individual goals, building on discoveries made in other Theatre Arts courses and/or prior stage work, exploring roles and plays that present actors with new challenges and expand their range. Depending on the number of students enrolled in the class, we are likely to perform at least three scenes and a monologue. Plays will be read alongside key theoretical texts, and class work will be complemented by attendance at selected live productions on campus and in Philadelphia.

350. (ENGL256) Rehearsal and Performance. (C) Ferguson, Fox, Malague, Mazer and Schlatter.

Theatre Rehearsal and Performance provides students with deep intellectual and artistic immersion in the theatrical process through intensive research, rehearsal, and performance of a full-length stage piece. Students may enroll in this course as actors (by audition only) or as assistant directors, stage managers, dramaturgs, or designers (by permission of the instructor). Each semester, the play will be featured in the Theatre Arts Program production season; the class meeting times will vary, but will typically consist of 16-20 hours per week in the evening hours.

SM 375. (ENGL270, ENGL371, WSTD371) Feminist Theatre. (M) Malague.

385. PRESENTING THE ARTS GRAD.

Graduate Level - This class meets in conjunction with Thar 285. This graduate level class will also include additional assignments above the 285 requirements as discussed with the instructor for that semester. A study of the creation and presentation of art (e.g., theater, film, sculpture), the cultural context of creativity and the management of individual and institutional performance and exhibition. A combination of lectures by instructors and practitioners, case studies and consulting

projects with local institutions will illustrate the relationship between creativity and presentation. Students will be required to write papers, proposals, and complete a term project.

SM 485. (COML385, EALC255, FOLK485) Japanese Theatre. (C)
Kano.

Japan has an enormously rich and varied theatrical tradition. In this course, we will examine Japanese theatre in historical and comparative contexts.

SM 579. (ENGL456, GSWS579) Provocative Performance. Malague.

999. Graduate Level Independent Study. (S) Staff.

URBAN SPATIAL ANALYTICS (FA) {USA}

Urban Spatial Analytics is a graduate major in the department of City and Regional Planning (CPLN) in the School of Design.

500. (CPLN671) Spatial Statistics and Data Analysis. (A) Eugene Brusilovskiy.

This hands-on course will provide an introduction to statistical methods and will serve as a prequel to ESE502. Topics covered will include exploratory univariate analysis, correlation and Chi-square analysis, t-tests and ANOVA. Non-parametric alternatives to the standard tests will be discussed. OLS regression, including assumptions and diagnostics, will be covered in detail. Heavy emphasis will be placed on the application of each method covered. The course will conclude with an introduction to spatial statistical methods and a brief overview of linear algebra and matrix notation for OLS and spatial regression. Students will learn to use JMP-IN, ArcGIS and GeoDa for data analysis.

501. Introduction to Applied Statistics. (B) Brusilovskiy.

This hands-on course will provide an introduction to statistical methods and will serve as a prequel to ESE502. Topics covered will include exploratory univariate analysis, correlation and Chi-square analysis, t-tests and ANOVA. Non-parametric alternatives to the standard tests will be discussed. OLS regression, including assumptions and diagnostics, will be covered in detail. Heavy emphasis will be placed on the application of each method covered. The course will conclude with an introduction to spatial statistical methods and a brief overview of linear algebra and matrix notation for OLS and spatial regression. Students will learn to

use JMP-IN, ArcGIS and GeoDa for data analysis.

502. Web Based Gis. (B)

503. (CPLN503) Modeling Geographical Objects. (A) Tomlin or Hillier.

This course offers a broad and practical introduction to the acquisition, storage, retrieval, maintenance, use, and presentation of digital cartographic data with vector-oriented (i.e. drawing based) geographic information systems (GIS) for a variety of environmental science, planning, and management applications. Previous experience in GIS is not required.

SM 504. Business and Crime Geographics. (B) Amos. Prerequisite(s): Prior experience with ArcGIS.

In this hands-on course, students will learn how to use ESRI Business Analyst software and data to undertake real estate and social service market studies, business location studies, and consumer expenditure profiles. New this year, the course will also explore techniques and software for tracking and forecasting crime; and deploying police resources.

505. Web-based Mapping. (B) Landis and Dailey. Prerequisite(s): CPLN 670 / LARP 743.

This hands-on course will teach students how to develop and implement web- and internet-based mapping tools and applications using ESRI's ArcGIS Server and ArcGIS Online products as well as the GoogleMaps Applications Programming Interface (API). Students will learn how to use web-based tools to build spatial databases, analyze and display spatial data at multiple scales, mix web-based vector and raster data with image data, conduct spatial analysis and develop urban and environmental planning applications.

506. Business and Crime Geographics. (B)

507. (CPLN590) Spatial Analysis for Urban and Environmental Planning.

(A) Steif. Prerequisite(s): MUSA 501 or CPLN 503 or equivalent.

This course builds on prior knowledge of GIS and basic statistics to help students to develop GIS and spatial analysis applications for use in urban and environmental planning and management. Each weekly session will focus on a particular analytical approach (e.g., buffering, geo-processing, map algebra, network analysis) as applied to a particular urban or environmental planning tasks (e.g., identification of development opportunities, prioritizing conservation lands, urban growth modeling, housing price modeling). The format of the class includes weekly lectures/in-class demos; and weekly homework assignments. The course will make extensive use of ArcGIS and associate Extensions, especially Spatial Analyst, Network Analyst, and Business Analyst. One-year student versions of ArcGIS and ArcGIS extensions will be available free of charge at the City Planning Office. ArcGIS runs best on Windows machines; those with Macs will need to install a Windows emulator.

610. (CPLN690) Javascript Programming for Planning Applications. (B) Faculty.

This course will introduce city planning, MUSA and design graduate students to Java and Javascript. Students will learn the logic and syntax of the Java programming language for use in simple web applications (Weeks 1 to 7); as well as how to program database and map-oriented web and desktop applications using Javascript (Weeks 8 to 14). The "hands-on" uses of Java and Javascript in urban planning applications will be emphasized. Students will hone their programming and applications development skills through a series of bi-weekly assignments.

800. MUSA Capstone Project. (C)

URBAN STUDIES (AS) {URBS}

SM 010. (AFRC041, SOCI041) Homelessness & Urban Inequality. (A) Culhane.

This freshman seminar examines the homelessness problem from a variety of scientific and policy perspectives. Contemporary homelessness differs significantly from related conditions of destitute poverty during other eras of our nation's history. Advocates, researchers and policymakers have all played key roles in defining the current problem, measuring its prevalence, and designing interventions to reduce it. The first section of this course examines the definitional and measurement issues, and how they affect our understanding of the scale and composition of the problem. Explanations for homelessness have also been varied, and the second part of the course focuses on examining the merits of some of those explanations, and in particular, the role of the affordable housing crisis. The third section of the course focuses on the dynamics of homelessness, combining evidence from ethnographic studies of how people become homeless and experience homelessness, with quantitative research on the patterns of entry and exit from the condition. The final section of the course turns to the approaches taken by policymakers and advocates to address the problem, and considers the efficacy and quandaries associated with various policy strategies. The course concludes by contemplating the future of homelessness research and public policy.

SM 011. Crime and Punishment. (M) Schneider. Previously URBS 110.

How have definitions of crime and forms of punishment changed over time? What have been the uses and legacy of extra-legal violence? How have the forms of crime and punishment reflected the structure of American society? Using both historical and contemporary texts, this freshman seminar will explore these and other questions and in the process analyze the development of juvenile justice, the organization of corrections, the application of the death penalty, and the rise of the drug economy.

SM 016. (MUSC016) Intro to Sound Studies. (M) Waltham-Smith.

Sound is all around us and shapes almost every aspect of our everyday lives, and yet, in comparison to our rich descriptions of visual culture, we often lack the explanatory power to analyze and assess

the overwhelming influence of the sonic. This introduction to sound studies course will provide both a rigorous conceptual and also a creative, hands-on understanding of the phenomena at the center of Penn's Year of Sound. We will explore how sound and auditory cultures have been theorized, how soundscapes shape and transform built environments and the social relations they underpin or express, how technologies have affected our relationships to sound, and how we might go about investigating aural phenomena.

The course will focus on sound in urban spaces. Structured around a number of themes that cut across disciplinary, historical and geographical boundaries, the course will create a transatlantic dialogue between investigative fieldwork into Philadelphia's soundscape and the changing auditory profile of Paris from the clatter of medieval sword fights through the cultivation of modern urban experience in Haussmann's boulevards to the contemporary soundscape. Other topics will include the role of sound-reproduction and mobile technologies, and the consumption and regulation of sound. We will encounter a wide variety of materials from literary texts to mobile apps and video games, not to mention a vast range of sounds, and we will tackle the topic from multiple interdisciplinary angles from Continental philosophy to urban anthropology to ask how sound composes urban space, transforming social bonds and power relations. Alongside written work, you will make field recordings on the streets of Philadelphia and develop creative projects using media of your choice to reflect upon urban sound.

SM 018. (MUSC018) Freshman seminar. (A) Staff.

The primary goal of the freshman seminar program is to provide every freshman the opportunity for a direct personal encounter with a faculty member in a small sitting devoted to a significant intellectual endeavor. Specific topics be posted at the beginning of each academic year. Please see the College Freshman seminar website for information on course offerings: <http://www.college.upenn.edu/requirements-courses>.

SM 050. (GSWS040) Womanism and Identity Politics in the Realm of Hip- Hop. Patterson.

This course centers on the intersections of womanism, woman of color identity development, and agency within hip-hop culture. We will touch on several topics that uncover the condition of minoritized women in hip-hop media, including

creating/owning space, lyrical assault, defining womanhood, sexuality, and fetishes. In exploring music, literature, advertisements, film, and television, we will discuss the ways women of color construct understandings of self, while navigating and reimagining reality within hip-hop contexts.

SM 103. (HIST209) Industrial Metropolis. (A) History & Tradition Sector. All classes. Vitiello. Course is available to freshmen and sophomores.

Although we no longer think of most U.S. cities as industrial cities, metropolitan areas today are all products of industrial economies, technologies, and social systems. This course explores the industrialization and deindustrialization of American cities within their evolving global context from the era of European colonization to the present. It includes weekly readings and discussion, regular response papers and walking tours, in-class exercises, and a research paper using primary sources. Themes include energy and ecology, labor and production, inner city and suburban development, globalization, and economic restructuring. Ultimately, the class aims to give students a broad knowledge of 1) the history of industrial capitalism, 2) its effects on cities and regions over the past three centuries, and 3) analytical tools for understanding the past, present, and future of metropolitan economies, geography, and society.

104. (HIST153) Transformation of Urban America. (B) Society Sector. All classes. Gillette.

The course traces the economic, social, and political history of American cities after World War II. It focuses on how the economic problems of the industrial city were compounded by the racial conflicts of the 1950s and 1960s and the fiscal crises of the 1970s. The last part of the course examines the forces that have led to the revitalization of cities in recent years.

SM 106. (ARTH100, ENGL016) Freshman Seminar. Staff. For Freshmen Only.

Topic varies.

Fall 2016: A city is more than just a collection of places. It is a living archive of stories, memories and histories. Whose stories do we hear? Whose stories should we preserve? Are all stories equal? In this course, students will be introduced to a variety of unique historical sites and civic institutions that make visible anew Philadelphia and its cultural history. From the first classroom of the university, which was located at the American Philosophical

Society, to the Johnson House Underground Railroad Station and House Museum on Germantown Avenue, this course will highlight the social life of the city, approaching the city itself as a living museum. What can the artworks, objects and institutions we experience each week teach us about the society in which we live? To answer this question, we will meet with artists, archivists, curators and scholars who will illuminate for us the social life of their collections. Through this course, students will be introduced to the study of the history of art. Our discussions will focus on changing aesthetics, the cultural politics of collecting, aspects of display and contextualization, the institution of the museum, and the increasingly blurred boundaries between ethnography, anthropology, and art history.

SM 112. (AFRC011, SOCI011) Urban Sociology. (M) Flippen.

This course is a comprehensive introduction to the sociological study of urban areas. This includes more general topics as the rise of cities and theories of urbanism, as well as more specific areas of inquiry, including American urbanism, segregation, urban poverty, suburbanization and sprawl, neighborhoods and crime, and immigrant ghettos. The course will also devote significant attention to globalization and the process of urbanization in less developed countries.

114. (AFRC112, GSWS114, SOCI112) Discrimination: Sexual and Racial Conflict. (M) Society Sector. All classes. Madden.

This course is concerned with the structure, the causes and correlates, and the government policies to alleviate discrimination by race and gender in the United States. The central focus of the course is on employment differences by race and gender and the extent to which they arise from labor market discrimination versus other causes, although racial discrimination in housing is also considered. After a comprehensive overview of the structures of labor and housing markets and of nondiscriminatory reasons (that is, the cumulative effects of past discrimination and/or experiences) for the existence of group differentials in employment, wages, and residential locations, various theories of the sources of current discrimination are reviewed and evaluated. Actual governmental policies and alternative policies are evaluated in light of both the empirical evidence on group differences and the alternative theories of discrimination.

121. (NELC103) Origin and Culture of Cities. (A) History & Tradition Sector. All classes. Zettler. Previously URBS 101.

The UN estimates that 2.9 of the world's 6.1 billion people live in cities and that this percentage is rapidly increasing in many parts of the world. This course examines urban life and urban problems by providing anthropological perspectives on this distinctive form of human association and land use. First we will examine the "origin" of cities, focusing on several of the places where cities first developed, including Mesopotamia and the Valley of Mexico. We will then investigate the internal structure of non-industrial cities by looking at case studies from around the world and from connections between the cities of the past and the city in which we live and work today.

L/R 122. (ANTH107, SAST002) The City in South Asia. (C) Society Sector. All classes. Mitchell.

This interdisciplinary social science course examines key topics, themes, and analytic methods in the study of South Asia by focusing on significant South Asian cities. With one-fifth of the world's population, South Asia and its urban centers are playing an increasingly important role in recent global economic transformations, resulting in fundamental changes within both the subcontinent and the larger world. Drawing primarily on ethnographic studies of South Asia in the context of rapid historical change, the course also incorporates research drawn from urban studies, architecture, political science, and history, as well as fiction and film.

Topics include globalization and new economic dynamics in South Asia; the formation of a new urban middle class; consumption and consumer culture; urban political formations, democratic institutions, and practices; criminality & the underworld; population growth, changes in the built environment, and demographic shifts; everyday life in South Asia and ethnic, and ethnic, cultural, and linguistic identities, differences, and violence in South Asia's urban environments. This is an introductory level course appropriate for students with no background in South Asia or for those seeking to better understand South Asia's urban environments in the context of recent globalization and rapid historical changes. No prerequisites. Fulfills College sector requirement in Society and foundational approach in Cross-Cultural Analysis.

136. (AFRC136, PSCI136) Urban Politics in the United States. (B) Society Sector. All classes. Reed.

This course focuses on political responses to urbanization in the United States. Topics include local government, national urban politics, and the changing nature of cities.

139. (ANTH139, NELC182) Ancient Civilizations of the World. (M) History & Tradition Sector. All classes. Zettler.

The archaeology of the complex societies of the Old and New Worlds from the end of the paleolithic up to and including the earliest civilizations.

L/R 160. (AFRC006, ASAM006, SOCI006) Race and Ethnic Relations. (C) Charles, Kao, Zuberi. Previously URBS 214.

The course will focus on race and ethnicity in the United States. We begin with a brief history of racial categorization and immigration to the U.S. The course continues by examining a number of topics including racial and ethnic identity, interracial and interethnic friendships and marriage, racial attitudes, mass media images, residential segregation, educational stratification, and labor market outcomes. The course will include discussions of African Americans, Whites, Hispanics, Asian Americans and multiracials.

SM 167. (AFRC167, AFST167, HIST167) THE NEW AFRICAN DIASPORA: AFRICAN IMMIGRANT LIVES IN WEST PHILADELPHIA. (M) CASSANELLI.

This seminar will examine the experiences of recent African immigrants and refugees in Philadelphia in an historical framework. We will employ a variety of sources—newspapers, census data, legal briefs, literature and film, and diaspora internet sites—to explore the lives, aspirations, and perceptions of Philadelphia's African residents. There will be opportunities for dialogue with high school students, teachers, and parents; with representatives of African community and business organizations; and with local government and service agencies. Students will be required to do a final project which involves volunteering with an African immigrant non-profit or business and/or conducting focused research on specific African communities in Philadelphia.

SM 178. (AFRC078, HIST173) Faculty-Student Collaborative Action Seminar in Urban University-Community Relations. (C) Harkavy, previously URBS 078; Benjamin Franklin Seminar.

One of the goals of this seminar is to help students develop their capacity to solve strategic, real-world problems by working collaboratively in the classroom, on campus, and in the West Philadelphia community. Research teams help contribute to the improvement of education on campus and in the community, as well as the improvement of university-community relations.

Among other responsibilities, students focus their community service on college and career readiness at West Philadelphia High School and Sayre High School. Students are typically engaged in academically based community service learning at the schools for two hours each week.

A primary goal of the seminar is to help students develop proposals as to how a Penn undergraduate education might better empower students to produce, not simply "consume," societally-useful knowledge, as well as function as caring, contributing citizens of a democratic society. Please note new location of the class: The Netter Conference Room is on 111 South 38th Street, on the 2nd floor.

SM 198. CITIES CITIZENS & UTOPIA. (C)

SM 200. Urban Research Methods. (C) Stern, Mark or Goldstein, Ira. Fulfills Quantitative Data Analysis Requirement.

This course will examine different ways of undertaking urban research. The goal will be to link substantive research questions to appropriate data and research methods. Computer-based quantitative methods, demographic techniques, mapping / GIS and qualitative approaches will be covered in this course. There will be a set of assignments including one in which students have an opportunity to undertake their own field research in a Philadelphia neighborhood involving multiple methods of scientific inquiry. All instructional materials will be based on data related to contemporary public policy issues.

SM 202. (EDUC202) Urban Education. (C) Paul Skilton-Sylvester.

This seminar focuses on two main questions: 1) How have US schools and urban ones in particular continued to reproduce inequalities rather than ameliorating them? 2) In the informational age, how do the systems affecting

education need to change to create more successful and equitable outcomes? The course is designed to bridge the divide between theory and practice. Each class session looks at issues of equity in relation to an area of practice (e.g. lesson design, curriculum planning, fostering positive student identities, classroom management, school funding, policy planning...), while bringing theoretical frames to bear from the fields of education, sociology, anthropology and psychology.

Among the theoretical frames students will learn will be the tools of systems thinking (Bertalanffy, 1968). While most of us have internalized the key lesson of the industrial revolution-that to understand something we must break it into its parts; systems thinking, in contrast, is about understanding the parts in relation to whole. The power of systems thinking is that each point of connection also serves as a point of intervention. By showing the importance of decisions of those within classrooms and those outside of them, this course is well-suited to students of education, but also any who seek a role in creating a more just society.

SM 203. Introduction to City Planning: Planning Urban Spaces. (L) Gorostiza.

This course will provide a general introduction to the concepts and practice of city planning. Topics to be discussed include: the process and nature of planning - theories, methods and roles as manifested in practice; history and trends in city planning; functional planning practice; planning within constraints--a field project; planning in the international arena; present crisis in planning.

204. Urban Law. (A) Keene.

This course will focus on selected aspects of urban law that are particularly relevant to areas of high population density. After an introduction to the American judicial system, it will examine the legal issues that arise in the management of land development and use, with special attention to constitutional questions involving equal protection, due process, and the "takings" clause, and routine run-of-the-mill zoning challenges. This course meets the Cultural Diversity requirement.

SM 205. People and Design. (B) Berman.

The built environment of a city is more than a mere backdrop; the design can actually affect people's experiences. Environmental design primarily focuses on the relationship between people and the built environment. It also looks at how the

built environment interacts with the natural one (and the potential for greater sustainability). This course will allow students to gain a deeper understanding of how people create, perceive, and use the designed environment. We'll approach these concepts by analyzing design at a variety of scales, from products to interior design to architecture. Finally, using that knowledge, we'll conclude by analyzing urban spaces of the city.

SM 206. (URBS506) Public Environment of Cities: An Introduction to the Urban Landscape. (B) Nairn.

This course will explore the role of public spaces - streets, boulevards, parks and squares - in cities and their social uses. With the University of Pennsylvania campus and the City of Philadelphia serving as our laboratory, we will critically examine the evolution of the movement of corridors, open space and buildings of the urban landscape and their changing uses. Case studies of social spaces on campus and public open spaces in Center City will help inform our understanding of how public environment serves, well or poorly, the varying needs of diverse users. While graphic skills are not required, graphic means as well as writing will be employed to communicate critical thought, ideas, and conclusions.

SM 207. (ASAM205) Asian American Communities. (C) Khan.

Who is Asian American and how and where do we recognize Asian America? This interdisciplinary course explores the multiple factors that define Asian American identity and community. In order to provide a sketch of the multifaceted experience of this growing minority group, we will discuss a wide variety of texts from scholarly, artistic, and popular (film, cinematic) sources that mark key moments in the cultural history of Asia America. The course will address major themes of community life including migration history, Asian American as model minority, race, class, and transnational scope of Asian America. In combination with the readings, this class will foster and promote independent research based on site visits to various Asian American communities in Philadelphia and will host community leaders as guest lecturers.

SM 210. (HIST210) The City. (B)

Humanities & Social Science Sector. Class of 2010 & beyond. Schneider, Nairn. Also fulfills General Requirement in Society for Class of 2009 and prior.

Urbs/Hist 210 will focus on Baltimore and use *The Wire* as one of its core texts. The course will explore the history and development of the city and its institutions, with a thematic focus on issues such as industrialization and deindustrialization; urban renewal and the role of universities; public education and youth; policing and the criminal justice system; drugs and underground markets; public housing and suburbanization; and Baltimore's so-called renaissance amidst persistent poverty. The seminar will include field trips both in Philadelphia and a concluding all-day trip to Baltimore.

212. (COML110, HIST246, THAR110) Theatre, History, Culture I: Classical Athens to Elizabethan London. (M)

Arts & Letters Sector. All Classes. Schlatter.

This course will explore the forms of public performance - most specifically theatre - as they emerge from and give dramatic shape to the dynamic life of communal, civic and social bodies, from their anthropological origins in ritual and religious ceremonies, to the rise of great urban centers, to the closing of the theaters in London in 1642. This course will focus on the development of theatre practice in both Western and non-Western cultures intersects with the history of cities, the rise of market economies, and the emerging forces of national identity. In addition to examining the history of performance practices, theatre architecture, scenic conventions, and acting methods, this course will investigate, where appropriate, social and political history, the arts, civic ceremonies and the dramaturgic structures of urban living.

SM 213. (FOLK513, URBS513) Urban Ethnography. (M)

Saverino. Using Philadelphia as the site of students' praxis, this course explores the symbolic meanings and social production of urban life and culture in the nation's fifth largest city. This course is structured as a seminar with ethnographic background readings from Philadelphia and other urban settings to introduce students to the study of the city as a site of everyday practice, as well as training in conducting an ethnographic fieldwork project. The urban landscape provides an intensification of macro processes such as globalization. Such processes and how humans experience

them are more easily studied and understood in an urban setting.

The class will explore social relational and cultural themes such as the ethnic city, the gendered city, the contested city, the sacred city, the global city, and the aesthetic and expressive city. A diverse range of reading assignments, images, and videos will augment our understandings of urban life. Students will design and execute their own ethnographic fieldwork projects on an urban topic that interests them. Through step-by-step instruction throughout the semester, students will learn qualitative research techniques such as field notes, participant-observation, interviewing, and how to interpret their own data, so that they will be able to complete their semester project.

SM 216. Social Entrepreneurship. (M)

Mandujano. Amidst perceptions that public sector and philanthropic support for local communities is increasingly scarce, many community development practitioners are turning to social enterprise as a means to improve social and economic conditions in their neighborhoods. This course will examine and evaluate a number of recognized social enterprises tackling housing, workforce development, and job creation challenges, including several planned field visits. Building on their understanding of these fields, students will then divide into groups and develop business plans for their own social enterprises.

SM 218. (AFRC217) Introduction to African American Politics. Harris.

This course provides an introduction to the political experience of African Americans. While the course will explore historical themes, it will be contemporary in its temporal focus. Topics will include African American political thought, leadership and political economy, voting and participation, urban politics, race and electoral politics. Additional topics will also include crime, the judiciary, and punishment; and issues of gender, class, age, and sexual identity at the intersections of black politics.

SM 219. The Heart of Social Change. (M)

Charles Howard. The Heart of Social Change: Experiments in Urban Development, Activism, and Social Entrepreneurship will seek to challenge those who desire to work for social change to consider how they may not only employ their heads and their hands, but also their hearts as they work to improve the aspects of contemporary society that mean the most to them. This

seminar-based class will examine past and contemporary examples of heart-based activism, urban development and social entrepreneurship yet it will also be a space where students will be asked to experiment with ways that they too may be change agents.

SM 220. (HIST214) The Immigration Debate: Advanced Benjamin Franklin Seminar. (M)

Katz. In the years since the 1965 repeal of nationality based quotas, immigration to the United States has surged. Not only has the number of immigrants reached record highs, they have come from different places. During the last great wave of immigration in the late nineteenth and early twentieth centuries, immigrants came largely from southern and eastern Europe. Today, they come primarily from Latin America and Asia. Formerly, they usually settled in cities, moving outward as their prosperity increased; today, many bypass cities, heading straight for suburbs where a majority of immigrants now live. They are reviving moribund city economies and providing essential labor for service industries, construction, landscaping, and some manufacturing as well as well as for some professions and high tech jobs. Yet, new immigration has resulted in massive expenditures on border control, huge increases in deportation, and a fierce national political debate about the impact of immigration and immigration reform. Debates about immigration frequently rest, either implicitly or explicitly on assumptions about the history of immigration and immigration policy. These assumptions frequently are incorrect - with major implications for public understanding and public

policy. There are few public issues in which history matters as much as it does for immigration. This seminar will provide the historical background essential for framing discussions of immigration today. It will consider the origins, demography, and geography of immigration and will pay special attention to the history of immigration policy. Requirements include reading approximately one book per week, writing several short commentary papers on readings, and leading workshops on the primary sources for the study of immigration history.

221. CIVIC SCHOLARS PROSEM.**L/R 225. (ARCH255, ENVS255) Sustainability in Action. (M)**

Hughes/Billhmer.

The term Sustainability loosely organizes a diverse mix of issues relating to the

science, politics, and business of how humans can endure on Earth. Sustainability is about carrying capacity: making resource decisions without compromising the ability of future generations to make their own resource decisions. Sustainability thus requires an understanding of the systems whose carrying capacities matter for human endurance; three prominent and interconnected systems are the environment, the economy, and society. Sustainability also requires an understanding of the decision-making that operates on these resource systems and affects their carrying capacities. In sum, the study of Sustainability requires an introduction to environmental science, energy production, human settlements, economic development, social justice, policy development, and international relations. This course will provide that introduction through a weekly lecture series drawing on scholars from across the university and a small group project that addresses a real problem confronting an institution in Philadelphia. SEE POSTED SYLLABUS FOR INFORMATION ABOUT RECITATION SECTIONS.

231. (SOC1230) SPECIAL TOPIC SOCI.

SM 233. (ARTH369, HIST233) World History: East Asia or Latin America. Staff.

Topics Vary

SM 234. (HIST234) TOPICS IN TRANSNATIONAL. (C)

236. (ANTH236, NELC241) Iraq: Ancient Cities and Empires. (M) Al Kuntar.

This course surveys the cultural traditions of ancient Mesopotamia, the land between the Tigris and Euphrates Rivers, a region commonly dubbed "cradle of civilization" or "heartland of cities," from an archaeological perspective. It will investigate the emergence of sedentism and agriculture; early villages and increasingly complex Neolithic and Chalcolithic cultures; the evolution of urban, literate societies in the late 4th millennium; the city-states and incipient supra-regional polities of the third and second millennium; the gradual emergence of the Assyrian and Babylonian "world empires," well-known from historical books of the Bible, in the first millennium; and the cultural mix of Mesopotamia under the successive domination of Greeks, Persians and Arabs. The course seeks to foster an appreciation of the rich cultural heritage of ancient Mesopotamia, an understanding of cultural continuities in the Middle East and a sense

of the ancient Near Eastern underpinnings of western civilization. No Prerequisite.

L/R 237. (GRMN237) Berlin: History, Politics, Culture. (M) Humanities & Social Science Sector. Class of 2010 & beyond. Weissberg. All readings and lectures in English.

What do you know about Berlin's history, architecture, culture, and political life? The present course will offer a survey of the history of Prussia, beginning with the seventeenth century, and the unification of the small towns of Berlin and koelln to establish a new capital for this country. It will tell the story of Berlin's rising political prominence in the eighteenth century, its transformation into an industrial city in the late nineteenth century, its rise to metropolis in the early twentieth century, its history during the Third Reich, and the post-war cold war period. The course will conclude its historical survey with a consideration of Berlin's position as a capital in reunified Germany. The historical survey will be supplemented by a study of Berlin's urban structure, its significant architecture from the eighteenth century (i.e. Schinkel) to the nineteenth (new worker's housing, garden suburbs) and twentieth centuries (Bauhaus, Speer designs, postwar rebuilding, GDR housing projects, post-unification building boom). In addition, we will read literary texts about the city, and consider the visual art and music created in and about Berlin. Indeed, Berlin will be a specific example to explore German history and cultural life of the last 300 years.

The course will be interdisciplinary with the fields of German Studies, history, history of art, and urban studies. It is also designed as a preparation for undergraduate students who are considering spending a junior semester with the Penn Abroad Program in Berlin.

240. Education in American Culture. (A) Staff.

This course explores the relationships between forms of cultural production and transmission (schooling, family and community socialization, peer group subcultures and media representations) and relations of inequality in American society. Working with a broad definition of "education" as varied forms of social learning, we will concentrate particularly on the cultural processes that produce as well as potentially transform class, race, ethnic and gender differences and identities. From this vantage point, we will then consider the role that schools can and/or should play in challenging inequalities in America.

SM 242. (ANTH252) Food Habits in Phil Comm. (C)

L/R 244. (COML254, GRMN244) Metropolis: Culture of the City. (M) Arts & Letters Sector. All Classes. MacLeod. All lectures and readings in English.

An exploration of modern discourses on and of the city. Topics include: the city as site of avant-garde experimentation; technology and culture; the city as embodiment of social order and disorder; traffic and speed; ways of seeing the city; the crowd; city figures such as the detective, the criminal, the flaneur, the dandy; film as the new medium of the city. Special emphasis on Berlin. Readings by, among others, Dickens, Poe, Baudelaire, Rilke, Doebelin, Marx, Engels, Benjamin, Kracauer. Films include Fritz Lang's Metropolis and Tom Tykwer's Run Lola Run.

SM 250. Urban Public Policy: Philadelphia -- A Case Study. (B)

Donna Cooper.

An introduction to a broad range of substantive policy areas affecting the city, and an exploration into the complexities of policy formulation and implementation in a large and pluralistic metropolitan setting. The course subtitle, "Philadelphia -- A Case Study," describes our approach. Donna Cooper currently leads the region's foremost child advocacy organization focused on poverty, child welfare and education issues, she formerly served as the Deputy Mayor for Policy for the City of Philadelphia, and Secretary of Policy of the Commonwealth of Pennsylvania.

SM 252. Urban Journalism. (B) Rubin.

This course will examine the state of urban journalism today with special emphasis on how large newspapers are redefining themselves, and the news, in an era of dwindling readership and growing financial pressures. The course will look at online journalism, ethics, and alternative sources of news, and will explore the techniques journalists use in reporting the news. Students will report and write four pieces of their own about Philadelphia and its environs. The course is taught by Dan Rubin, Enterprise Editor of The Philadelphia Inquirer, The Daily News and philly.com.

SM 253. (SOC1254) Cities, Suburbs, Regions. (J) Black.

This course will explore the political, economic, social, and demographic forces impacting development patterns in metropolitan areas, with a particular focus

on Philadelphia. We will examine the government policies, economic forces, and social attitudes that affect the way a region grows, and the impact of these forces on poverty, equity and segregation. Specific topics to be discussed include the factors that make a region competitive, the city's changing role in the region, the impact place has on opportunity, and approaches to revitalizing and improving communities.

SM 255. (AFRC255, HIST255) Urban Neighborhoods. (M) Milestone.

The last several decades have witnessed a dramatic acceleration in the interconnection of cities around the world. The globalization of the economy, the spread of communications technology, major migrations between urban locations, increasing disparities between rich and poor, the dramatic growth of the "culture industries", and the increasingly popular quest for "place making" through urban design have all contributed to this process. This course will examine urban neighborhoods in the United States and elsewhere in the world. In particular, class readings and discussions will explore the wide range of ways (political, social, cultural; organized and informal) that individuals and institutions in urban neighborhoods have reacted to global transformations and what effects and consequences those reactions have precipitated.

SM 259. Post Industrial City: Media City -- New Lifestyles, New Forms. (B) Thomas, Snyder. Previously URBS 429.

The stereotypical idea of the city or urban life is neither fixed nor singular. Lifestyle and urban form evolve together in an iterative fashion affected by changes in technology, communication, economics and cultural, social, political values. This seminar examines the underlying forces that are continuing to transform urban form and the relationship of these forces to contemporary urban lifestyles. Lifestyle choices have become an engine of urban growth and are instrumental in the transformation of urban life and form of the city. The spatialization of contemporary life and the physical forms and fabric that support it call into question traditional definitions of 'urban life' and 'city form.' The seminar's broad context is the interface between the physical/psychological permanence of the existing traditional city and the changing spatial and cultural landscape of a new urban realm defined by consumption culture, new technologies and the media age.

The research focus for Spring 2015 will be the transformation of Brooklyn neighborhoods from industrial working class centers to enclaves of hipster lifestyles. Hipsters have become commodified and part of the commercial world but their role as urban shapers who put forth new values, new urban lifestyles and new urban character has left a mark on neighborhoods from economic revival to gentrification. Hipsters wield a combination of technology, values and cultural forces that together are transforming urban places. Many of these underlying values have become the province as well of educated middle-class population often living ideologically. We propose these groups are the seeds of new types of consciousness united by shared values that have the potential to provide an alternative vision for an urban domain that balances a long-term view with more temporal individual choices.

SM 260. (EALC141, HIST233) World Cities. (M) Staff.

Topics vary; see department for current description

SM 264. (SOC1264) Poverty, Race and Health. (M) Jaeger.

This course is designed to introduce students to current literature on race/ethnic difference in health and mortality in the United States, covering such topics as explanations for why some race/ethnic groups fare better than others, how inner city poverty and residential segregation may contribute to racial/ethnic differences in health outcomes, and health of immigrants versus native-born populations. Current policy debated and recent policy developments related to health are also briefly discussed. The course is organized as a seminar with a combination of lectures and class discussions.

SM 270. (CPLN676, SOC1270) The Immigrant City. (B) Society Sector. All classes. Vitiello, Domenic.

Immigration is among the most important yet controversial forces shaping cities, regions, and neighborhoods. The diversity of immigrant and receiving communities means that the dynamics and impacts of migration are varied and complex. This course examines the development of immigrant and receiving communities in the urban and suburban United States. It surveys public policy and community and economic development practices related to migration at the local, regional, national, and trans-national scale. Class readings, discussions, and visits to Philadelphia's immigrant neighborhoods explore themes

including labor markets, housing experiences, political mobilization, civil society, cultural preservation, and the built environment.

SM 272. Architecture, Location, and Class in Philadelphia, 1780-1930. (A) Thomas.

This course studies the architecture of Philadelphia from the perspectives of aesthetic and social history. Relationships between architectural patronage, design and location, and community values will be examined and their implications for understanding the built environment will be analyzed.

SM 273. (AFRC145, ENGL145) Advanced Non-Fiction Writing. (M) Staff.

This course is not open to freshmen. May be repeated for credit with a different instructor.

Writing with a view to publication in the freelance sections of newspapers such as THE PHILADELPHIA INQUIRER and THE NEW YORK TIMES, in magazines such as THE ATLANTIC and THE NEW YORKER, and in the literary quarterlies and the journals of opinion. Among the areas likely to be considered are writing as a public act, issues of taste and of privacy, questions of ethics and of policy, methods of research and of checking, excerpting, marketing, and the realistic understanding of assignments and of the publishing world. Student papers will be the basis of weekly editorial sessions, with concentration on the language: how to render material literate, how to recognize and dispose of padding and self-indulgence, how to tighten structure and amplify substance.

See the English Department's website at www.english.upenn.edu for a description of the current offerings.

SM 274. (THAR275) Advanced Topics in Theatre. (M) Fox, Ferguson, Malague, Mazer, Schlatter. This course, with different topics, may be repeated for credit. Please look at the program website for the current semester's topic(s).

This course will combine an intensive practical and intellectual investigation of some area of the making of theatre: performance techniques, theatrical styles, a particular period of theatre history. For the current topics contact the Theatre Arts office or visit the website.

One section of 275 every other Spring will consist of a small number of Theatre Arts majors selected by the faculty to become members of "the Edinburgh Project." This ensemble will mount a production that will be performed at the Edinburgh Festival Fringe in August.

Many of the readings and exercises in this course will be geared to prepare for production; rehearsals for the project will continue after the exam period at the end of the semester.

SM 275. The Idea of the City in History. Gaige.

This course will examine the idea of the city in history and how that idea has changed over time. We will use literature, philosophy, sociology, and history to explore the ways writers and thinkers have defined and characterized the city and what these definitions reflect in terms of values, assumptions, and knowledge through changing times - as well as how the definitions have been contested.

For Aristotle the city was the inevitable consequence of people's inherent sociability, and as such was a natural, positive agent of acculturation and education. For others, such as Jefferson, Emerson, Thoreau, Melville, and Poe - members of the American literacy and political pantheon all - cities embodied the crystallization of moral ruin. Others fell somewhere in between. Thus for Walt Whitman and Jane Addams, cities had numerous defects but also contained the seeds of their own flowering and renaissance. Members of the golden age of urban studies - Lewis Mumford, Jane Jacobs, and the Chicago School - offered new insights and empirical tools for thinking about cities, and we will examine their contributions as well. More contemporaneously, some critics of globalization locate cities at the epicenter of their discontent with modernity while others view cities as a locus for a revitalized form of citizenship.

In this course, we will examine each of these perspectives, with the goal of cultivating a deeper and broader understanding of the many ways the idea of the city has played a leading role in fostering rich debate about how and where humans should live their lives.

SM 280. (CRIM280, SOCI380) Neighborhood Dynamics of Crime. (B) Loeffler.

Crime varies in time, space and populations as it reflects ecological structures and the routine social interactions that occur in daily life. Concentrations of crime can be found among locations, with antisocial activities like assaults and theft occurring at higher rates because of the demographic make-up of people (e.g. adolescents) or conflicts (e.g. competing gangs), for reasons examined by ecological criminology. Variation in socio-demographic structures (age, education

ratios, and the concentration of poverty) and the physical environment (housing segregation, density of bars, street lighting) predicts variations between neighborhoods in the level of crime and disorder. Both ethnographic and quantitative research methods are used to explore the connections between the social and physical environment of areas and antisocial behavior.

SM 290. Metropolitan Nature. (A) Nairn.

In order to understand the complex and often skewed relationship between the built and natural systems, we must think in processes and examine different scales simultaneously. The course explores urban sustainability and resilience. At its core, sustainability is a radical concept that integrates the economy, equity (social justice), and the environment. Co-opted by marketing slogans, stripped of meaning and context, it has become vague and pliable. Sustainability and resilience demand a holistic systems view of the world. The course focuses on communities such as New Orleans and Eastwick where urban development has focused on economic concerns at the expense of the environment and equity resulting in unintended, and sometimes, catastrophic consequences. Students will have the opportunity to interact with community residents who have organized to develop strategies to address these ongoing issues.

SM 294. (ANTH294) CITIES OF THE FUTURE. (M)

SM 312. (ANTH312, HSOC321) Health in Urban Communities. (A) Johnston.

This course will introduce students to anthropological approaches to health and to theories of participatory action research. This combined theoretical perspective will then be put into practice using West Philadelphia community schools as a case study. Students will become involved in design and implementation of health-related projects at an urban elementary or middle school. As one of the course requirements, students will be expected to produce a detailed research proposal for future implementation.

320. (GAFL509, PSCI320) Who Gets Elected and Why? The Science of Politics. (A) Rendell.

What does it take to get elected to office? What are the key elements of a successful political campaign? What are the crucial issues guiding campaigns and elections in the U.S. at the beginning of the 21st century? This class will address the

process and results of electoral politics at the local, state, and federal levels. Course participants will study the stages and strategies of running for public office and will discuss the various influences on getting elected, including: Campaign finance and fundraising, demographics, polling, the media, staffing, economics, and party organization. Each week we will be joined by guest speakers who are nationally recognized professionals, with expertise in different areas of the campaign and election process. Students will also analyze campaign case studies and the career of the instructor himself. Edward G. Rendell is the former Mayor of Philadelphia, former Chair of the Democratic National Committee, and former Governor of Pennsylvania.

SM 321. (ANTH320, COMM320) Urban Ethnography: Documenting The City of Brotherly Love. Jackson.

Prerequisite(s): COMM 220 or permission of instructor.

How do qualitative social scientists study urban communities? What kinds of powerful tales can be told about urban lifestyles and social issues/conflicts in places like Philadelphia? This course will allow students to study various ethnographic treatments of urban communities in the United States, using films, articles, TV serials, and books as guides for the framing of their own independent research on the streets of Philadelphia. Students will also form production teams of two or three people, and these production teams will be responsible for (i) identifying and researching an important urban issue in contemporary Philadelphia and (ii) turning that research into a 15-30 minute radio documentary that will be broadcast on a local Philadelphia radio station, WURD 900AM. Mixing radio/audio journalism with ethnographic methods, will enhance their skills at archival and social research, participant- observation, interviewing techniques, sound editing, and production. This course is intended to be a rigorous and exciting opportunity for students to tell empirically grounded stories using the voices of their subjects and the sounds of the city.

Potential texts include: Sidewalk (a book and documentary film by Mitchell Duneier), Righteous Dopefiend (a book and museum exhibit by Philippe Bourgois), and excerpts from other ethnographic work by Ana Ramos-Zayas, Elijah Anderson, Todd Wolfson, David Grazian, Setha Low, Ulf Hannerz, Leith Mullings, John Gwaltney, Dana-ain Davis,

Carol Stack, Melissa Checker, Katherine S. Newman, and others. By Permission Only.

SM 322. (FNAR222, FNAR622) The Big Picture: Mural Arts in Philadelphia. (C) Golden/Walinsky. Previously URBS 222. The Undergraduate Fine Arts Department will now include a \$75 fee for this course.

The history and practice of the contemporary mural movement couples step-by-step analysis of the process of designing with painting a mural. In addition, students will learn to see mural art as a tool for social change. This course combines theory with practice. Students will design and paint a large outdoor mural in West Philadelphia in collaboration with Philadelphia high school students and community groups. The instructor, Jane Golden, is the founder and Director of the Philadelphia Mural Arts Program.

SM 323. (EDUC323) Tutoring in Urban Public Schools: Theory and Practice. (A) Parker, Cheryl.

This course represents an opportunity for undergraduate students to participate in academically based community service involving tutoring in a West Philadelphia public school. This course will serve a need for those students who are already tutoring through the West Philadelphia Tutoring Project or other campus tutoring, and it will also be available to individuals who are interested in tutoring for the first time.

SM 326. (EDUC326) Tutoring in Urban Public Elementary Schools: A Child Development Perspective. (B) Fantuzzo.

The course provides an opportunity for undergraduate students to participate in academically based community service learning. Student will be studying early childhood development and learning while providing direct, one-to-one tutoring services to young students in Philadelphia public elementary schools. The course will cover foundational dimensions of the cognitive and social development of preschool and elementary school students from a multicultural perspective. The course will place a special emphasis on the multiple contexts that influence children's development and learning and how aspects of classroom environment (i.e., curriculum and classroom management strategies) can impact children's achievement. Also, student will consider a range of larger issues impacting urban education embedded in American society. The course structure has three major components: (1) lecture related directly to readings on early

childhood development and key observation and listening skills necessary for effective tutoring, (2) weekly contact with a preschool or elementary school student as a volunteer tutor and active consideration of how to enhance the student learning, and (3) discussion and reflection of personal and societal issues related to being a volunteer tutor in a large urban public school.

SM 327. (ASAM321, EDUC410) Schools and Community Development. (C) Puckett/Simon. First class meeting is in McNeil 130. Subsequent classes will meet at West Philadelphia High School; transportation will be provided.

This seminar engages Penn undergraduates with West Philadelphia High School teachers and students to assist in planning an urban studies academy at both the existing and the proposed new high school. This planning includes developing curricular activities, mapping institutional resources to support curriculum development, and designing school-based public works projects.

SM 330. (URBS530) GIS Applications in Social Science. (A) Hillier. Fulfills the Qualitative Data Analysis Requirement.

This course will introduce students to the principles behind Geographic Information Science and applications of (GIS) in the social sciences. Examples of GIS applications in social services, public health, criminology, real estate, environmental justice, education, history, and urban studies will be used to illustrate how GIS integrates, displays, and facilitates analysis of spatial data through maps and descriptive statistics. Students will learn to create data sets through primary and secondary data collection, map their own data, and create maps to answer research questions. The course will consist of a combination of lecture and lab.

SM 332. Digital City: Approaches to Urban Memory & Cartography. (M) Farber.

Cities have existed through time with layered histories. Such histories are intelligible to dwellers of urban space in the present who seek them out and others who by default interact with the effects of memory through art and culture. Through the expansion of digital mapping tools, location-enabled devices, online sharing sites, and social media memes, those layers of urban memory are newly accessible and thus enhance experiences and explorations in a city. How do websites and apps devoted to mapping cities across space and

time help us access and redefine the cultures of cities? What approaches, programs, and philosophies do the newfangled mapmakers and their co-creators use, and how do they differ from analog approaches to research and placemaking? What are the possibilities and responsibilities of such digital cartographies and locales? Where and for whom do the digital divides still exist?

In "Digital City: Approaches to Urban Memory and Cartography," we will seek solutions to these prompts by conducting case studies of digital map projects from transnational and local perspectives, including a particular focus on Philadelphia-based sites. Students will gain skills in cultural analysis and the digital humanities, and will produce a final research project that will result in a website, mobile app, or critical assignment of their own direction mapping a city's past onto its present or future spaces.

SM 352. (ANTH252) Food Habits in Philadelphia Communities: Exploring Eating and Changing Food Habits in Philadelphia Middle Schools. (C) Kauer.

In this course, Penn undergraduates will explore and examine food habits, the intersection of culture, family, history, and the various meanings of food and eating, by working with a middle-school class in the Philadelphia public schools. The goal of the course will be to learn about the food habits of a diverse local community, to explore that community's history of food and eating, and to consider ways and means for understanding and changing food habits. Middle school students will learn about the food environment and about why culture matters when we talk about food. Topics include traditional and modern foodways, ethnic cuisine in America, food preferences, and 'American cuisine'. The course integrates classroom work about food culture and anthropological practice with frequent trips to middle school where undergraduates will collaborate with students, their teachers, and a teacher partner from the Agatson Urban Nutrition Initiative (UNI). Students will be required to attend one of two time blocks each week to fulfill the service learning requirement-times TBA.

Undergraduates will be responsible for weekly writing assignments responding to learning experience in the course, for preparing materials to use middle school children, being participant-learners with the middle school children, and for a final research project. The material for the course will address the ideas underlying university-community engagement, the

relationships that exist between food/eating and culture, and research methods.

SM 359. (ANTH359) Nutritional Anthropology. (M) Johnston.

Human nutrition and nutritional status within context of anthropology, health, and disease. Particular emphasis on nutritional problems and the development of strategies to describe, analyze, and solve them. Students will participate in the Urban Nutrition Initiative, an academically based community service project in local area schools.

L/R 367. (HIST367, SOCI367) Philadelphia, 1700-2000. (M) Sugrue.

Using Philadelphia as a lens, this course will examine the transformation of American cities from the colonial period to the present. Through readings, lectures, and tours, we will consider urbanization and suburbanization, race, class, and ethnicity, economic development, poverty and inequality, housing and neighborhood change, urban institutions, and politics and public policy.

SM 390. Urban Agriculture. (L) Nairn.

Urban Agriculture is a growing global trend. This course examines urban agriculture as an issue of sustainability, social justice, public health, and vacant land. It explores the potential of urban agriculture in both the Global North and South to provide a safe and secure source of food to city residents. Major topics include sustainable agricultural practices, operational and spatial requirements, distribution systems, and access to fresh food. Using Philadelphia as a laboratory, the course explores its robust agricultural scene of community gardens, guerilla gardens, and entrepreneurial farms, as well as its distribution system including programs such as City Harvest, the emerging Common Market, and established farmers' markets. The course will integrate lectures about sustainable agricultural practices with field trips to and hands-on work at community gardens and farms.

SM 400. Senior Seminar. (A)

Schneider/Simon. Prerequisite(s): URBS 200; URBS 300.

Urban Studies senior research project

SM 401. URBAN STUDIES HONORS. (B) Schneider / Simon. Prerequisite(s): URBS 400.

Students in the fall Urban Studies Senior Seminar (URBS400) whose papers are exceptional and show promise for publication will be invited to participate in the spring honors seminar. If they choose

to participate, honors seminar participants will revise and refine their research/papers with the goal of their work for publication in an academic journal relevant to the topic. The seminar meets periodically during the semester, structured around a set of assignments geared to facilitate the process of revision. Students will be assigned to read each other's work and meetings take the form of a workshop with students reporting on progress and providing feedback to improve and develop each other's papers. In addition to completing the revised paper for a grade, participants in the honors seminar are required to present their work to a wider Urban Studies audience in a special session at the end of the semester and to provide documentation that they have submitted their papers for publication. Students who successfully complete the honors seminar will graduate with distinction in the major, noted on their transcripts and in the graduation materials.

SM 402. The City and Homelessness. (L) Freiherr Von Mahs.

This seminar in Urban Studies introduces students to many of the major social issues confronting our nation's cities by focusing specifically on the problem of urban homelessness. The course examines the treatment of homelessness and extreme impoverishment as social problems historically, as well as through contemporary debates. Several areas of intensive study will include: the low income housing crisis, welfare reform and income maintenance strategies, health care issues, and urban/suburban relationships. Particular attention is also paid to the structure of emergency services for people who have housing emergencies. The course concludes by examining current policies and advocacy strategies.

SM 403. (CPLN506, GAFL472, SOCI430, SOCI530) Urban Oral Histories, Voice and Storytelling. Cory Fischer-Hoffman.

This course introduces students to the historical study of sound, soundscapes, and sound recordings, aural history composition techniques (especially radio documentaries), and oral history as a documentary practice. Designed as a theory and methods workshop, this course will cover theory, ethics, interview techniques and project design along with recording tutorials, interview opportunities and an introduction to digital audio editing. We explore Oral History's rich past while working to define and expand its future as a dynamic research method. The class will include analysis of audio documentary forms and non-fiction storytelling

techniques, 20th and 21st century historical radio documentary work, and archival audio source research. Theoretical readings draw from the fields of Oral History, Media Studies and Urban Studies as well as the fields of Psychoanalysis, Trauma Studies, and Anthropology. This course is well suited for those interested in ethnography, multimedia journalism, social advocacy, and/or narrative nonfiction, as well as documentarians who want to learn new approaches to interviewing and storytelling.

SM 404. (NPLD797) Philanthropy & The City. (A) Bauer/Goldman.

This course will focus on how urban communities are shaped by the nonprofit sector and the billions of philanthropic dollars that fuel their work. By bridging theory and practice, the class explores what dynamics are at play to deliver vital services or programs in healthcare, education, the arts, community development, and other issues. The course will also focus on these important questions: (1) Whose responsibility is the public good? How is that responsibility shared by the public, private, and nonprofit sectors? and (2) Given that responsibility for the public good, which individuals and groups make the decisions about how to serve the public good? How are these decisions made, and who benefits from these decisions? Students will consider these questions in an interdisciplinary context that will bring a historical and philosophical perspective to the examination of the values and institutions that characterize the contemporary philanthropy and the nonprofit sector.

SM 405. (AFRC405, RELS439) Religion, Social Justice & Urban Development. (B) Lamas.

Urban development has been influenced by religious conceptions of social and economic justice. Progressive traditions within Judaism, Christianity, Islam, Buddhism, Hinduism, Jainism, Baha'i, Humanism and other religions and systems of moral thought have yielded powerful critiques of oppression and hierarchy as well as alternative economic frameworks for ownership, governance, production, labor, and community. Historical and contemporary case studies from the Americas, Europe, Africa, Asia, and the Middle East will be considered, as we examine the ways in which religious responses to poverty, inequality, and ecological destruction have generated new forms of resistance and development.

**SM 409. (ANTH305, ANTH609)
Anthropology & Policy: History,
Theory, Practice. (B)** Suess.

From the inception of the discipline, anthropologists have applied their ethnographic and theoretical knowledge to policy issues concerning the alleviation of practical human problems. This approach has not only benefited peoples in need but it has also enriched the discipline, providing anthropologists with the opportunity to develop new theories and methodologies from a problem-centered approach. The class will examine the connection between anthropology and policy, theory and practice (or 'praxis'), research and application. We will study these connections by reading about historical and current projects. As an ABCS course, students will also volunteer in a volunteer organization of their choice in the Philadelphia area, conduct anthropological research on the organization, and suggest ways that the anthropological approach might support the efforts of the organization.

**412. Building Non-Profits: The
Business of a Mission-Driven
Organization. (L)** Goldman, Greg.

This course will cover the basic elements of building and growing a non-profit organization, including the development of the mission and the board; needs assessment, program design, development, and management; financial management, contract compliance and understanding an audit; fundraising, public, foundation, corporate, and individual; communication and marketing; organizational administration (including staff and volunteer selection, management and development); public policy, research and advocacy. Students will make site visits and engage role play, in addition to research and writing. Note: This class first meets on Sept. 6th.

Note: The first day of this class in Fall 2016 will be on Tuesday, Sept 6th. Class will not meet on Aug 30th.

**SM 415. Urban Real Estate Markets.
(B)** Kozloff.

Cities evolve over time, comprised of various inputs of different sizes at different stages of urban evolution. However, as cities continue to densify and navigate real estate market cycles, opportunities to redefine the urban context, while promoting the individual brand, become ever more sensitive. Projects are increasingly complex, often involving multiple partnerships among private developers, public agencies, non-profits, and community groups. Today's development

professionals need to be well-versed across a variety of disciplines and property types to effectively execute in an urban environment. As an introductory course in real estate development, this course will provide the underpinnings for critical decision-making in markets that change frequently and often unevenly - whether for financing, investing, development, public policy formulation, or asset management/disposition.

SM 417. Cities and Sustainability. (M)
Ben-Amos.

A good idea is not enough - developing innovative and sustainable projects in cities requires understanding "how to get things done." Developing projects to promote sustainability in major US cities requires sensitivity to the political and operational context within which cities implement innovative initiatives. Cities and Sustainability uses Philadelphia as a case study to explore the issues confronting modern American metropolises as they look to manage their resources and promote environmentally friendly policies. URBS 417 will introduce students to leading Philadelphia practitioners of sustainability and municipal projects. Students will be given the tools to politically, economically and critically analyze various sustainable policy initiatives across the United States.

**419. Transportation & American
Society.** Ben-Amos.

Transportation affects every aspect of American society; from how we get to work or school, to how we shop and play. Transportation policy at all levels of American government has serious implications for social justice and economic development. Moreover, some of today's most intense political battles center on transportation policy across America and within its cities, be it funding High Speed Rail in California or placing bike lanes in the heart of Manhattan. Transportation and American Society will expose students to the role transportation has played the development of America and its cities as well as its impact on politics and society.

**SM 420. (HIST440, SOCI420)
Perspectives on Urban Poverty. (C)**
Fairbanks.

This course provides an interdisciplinary introduction to 20th century urban poverty, and 20th century urban poverty knowledge. In addition to providing an historical overview of American poverty, the course is primarily concerned with the ways in which historical, cultural, political, racial, social, spatial/geographical, and economic

forces have either shaped or been left out of contemporary debates on urban poverty. Of great importance, the course will evaluate competing analytic trends in the social sciences and their respective implications in terms of the question of what can be known about urban poverty in the contexts of social policy and practice, academic research, and the broader social imaginary. We will critically analyze a wide body of literature that theorizes and explains urban poverty. Course readings span the disciplines of sociology, anthropology, urban studies, history, and social welfare. Primacy will be granted to critical analysis and deconstruction of course texts, particularly with regard to the ways in which poverty knowledge creates, sustains, and constricts meaningful channels of action in urban poverty policy and practice interventions.

SM 421. Exploring Creativity. Berman.

Creativity isn't just for artists and inventors. It's an integral aspect of excelling at many jobs. It's problem solving. Recent studies have pointed to creativity as an important factor for achievement in a variety of fields. Additional studies have discussed how creativity can be enhanced in people of any age. This seminar-studio will challenge you with various projects to push your creative skills. No previous art experience is required. We'll also include guest speakers and walking tours. The core premise of this class is that creativity is within all of us. By the end of the class, your understanding of creativity should be deeper, and your personal creativity, enhanced.

**SM 423. Fantastic Cities: Urban
Landscapes Seen Through Memory
Imagination and Dreams. (L)**
Svendsen.

This seminar introduces the notion of the city, or polis, as a powerful current in our cultural imagination. In contemporary discourse, cities have an edge of glamour: they elicit both fear and desire. Historically, however, cities have been understood as microcosmic models of the organization of human society; a walled city was a place of safety and order, not a site of danger or chaos. This course explores different moments in the cultural fantasies surrounding cities, paying special attention to topics such as the role of the imagination in experiencing cities, historical urban strata, subways and other subterranean spaces below the modern city, urban peripheries, and the modern aesthetic of transparency. The course focuses on representations of some actual cities -- Rome, Berlin, New York, London, Lagos --

as well as a series of utopian and dystopian imagined cities.

SM 427. (FOLK513) URBAN ETHNOGRAPHY. (M) Saverino.

Cities can be exciting, dense, noisy, and dirty. They are places where the unexpected is expected to occur. One thing is certain however - urban settings are always full of the diversity of human expressivity. Through readings, videos, guest lectures, and field trips, this course explores the symbolic meanings and social production of urban life and culture in Philadelphia, the nation's fifth largest city. The urban landscape provides an intensification of cultural processes. How humans experience them are more easily studied and understood in an urban setting, giving this class the opportunity to explore social relational and cultural themes such as the ethnic city, the contested city, the global city, and the creative city. This course is structured as a seminar with readings from Philadelphia and other urban settings that introduce students to the study of the city as a site of everyday practice. In addition, the course offers step-by-step training in conducting an ethnographic fieldwork project on an urban topic of the student's interest.

SM 428. (CPLN528) Research Seminar in 21st Century Urbanism. (B) Ehlenz.

A seminar run in conjunction with the Institute for Urban Research at Penn, students will learn about the range of cutting-edge topics in urbanism that Penn faculty are working on and work closely with a faculty member on current research. Students will learn about new topics and methods in interdisciplinary urban research, and get first hand experience collecting urban data under the close supervision of an experienced researcher. Students and faculty jointly will present their findings for discussion. This course is a good introduction for how to frame and conduct an urban research project.

SM 431. Mapping Philadelphia. Paul Farber.

Philadelphia is a city that was mapped before it was built. Founder William Penn's original concept for the gridded city continues to inform the historical evolution of Philadelphia, even as city planners, architects, artists, and social justice activists work to transform the layers of our built environment. This class will study the city through a variety of archival maps, historical mapping practices, and emergent digital approaches to representing space and time. We will explore public history

projects that seek approaches to place-making and place-keeping at neighborhood intersections, share dialogue with social practice artists who produce site-specific works, and visualize civic data through platforms such as OpenDataPhilly. Each student will pursue a final research project resulting in a close study of a particular street or intersection in the city.

435. The Political Economy of Urban Development. (M) Fairbanks.

This course provides an introduction to the economic and political theories that have come to shape, for better or for worse, the spatial characteristics of late 20th century urbanism. It is intended to offer a range of analytical approaches to understanding the urban structures and processes that strategies of community-based organizers and urban policy planners seek to influence. The course focuses on postwar U.S. cities (Chicago and other Midwestern/Northeast rust belt cities in particular), though a number of readings explore these issues in broader contexts. As a way to further understand postwar US urbanism, we will expand our focus briefly to the geopolitical/international scale during the weeks on neoliberalism and microfinance.

Urban political economy refers to different theoretical traditions within the social sciences that explain urban development in terms of the relationship between markets, states, and community actors (or, civil society). Part I of the course covers four different theories of modern political economy: Neoclassical, Keynesian, Marxian, and Neoliberal. Our purpose is to provide a framework for political economic analysis and an historical foundation for understanding postwar transformation. Part II of the course grounds the foundational material of Part I by tracing the economic and political forces that have shaped post-war urban development trends in Northeastern and Midwestern cities (especially Chicago, Detroit, Philadelphia and NY). Particular attention will be given to issues such as race, suburbanization, deindustrialization, welfare state retrenchment, gentrification, and public housing transformation. Part III examines a range of contemporary (post 1970) approaches to urban development, focusing on processes of neoliberalization, neo-clientalism, urban informality, sub prime mortgage lending, and microfinance.

SM 438. (SOCIA38) SOCIAL SCIENCE STUDIO: IMMIGRANTS MAKE THE CITY. (M) Choudhury, Kushanava.

How do American cities grow? Studies of urban transformation have focused on anchor institutions, the growth model of big

business-generated employment, and "creative class" gentrification. After decades of decline, many major cities like Philadelphia are seeing gains in population again, as well as new commercial activity and street life, spurred by the influx of new immigrant communities. Yet few scholars have asked: What role do immigrants play in the current revival of the American metropolis?

In this Social Science Studio course, 16 students will work collaboratively as in a design studio to conduct research that can answer this important social-scientific question. Students will work on independent projects that engage multiple methods and fields to produce new types of knowledge. They will be introduced to multiple methods drawn from architecture, planning, anthropology and political science, including mapping, interviewing, field notes, socio-economic surveys, sketching, photography and web design to develop independent projects. No prior knowledge is required but students with experience in GIS, STATA, photography, drawing or web design are encouraged to apply. This course is pending for an ABCS designation.

SM 439. Sustainability and the Urban Neighborhood. Berman.

This studio style class will follow the method of a traditional architecture and city planning studio, in that the learning will occur while students do a simulated project. A specific neighborhood in Philadelphia will be chosen and students will examine the neighborhood in detail, focusing on the different aspects that comprise the concept of sustainability. This will include issues of density, diversity of uses, transportation, livability, environmentally sustainable buildings, food accessibility, environmentally sustainable materials, and education. It will also look into issues related to social sustainability and social diversity.

Students will have two main projects within the semester. The first is to analyze the chosen neighborhood, in terms of the different aspects of sustainability. The second is to create guidelines to lead it towards a more sustainable future. Definitions of sustainability will be explored throughout this process. As each component of sustainability is examined within the context of the chosen neighborhood, it will simultaneously be explored in readings, class discussions, guest lectures and tours.

L/R 440. (CPLN500) Introduction to City Planning: Past, Present and Future. (A) Vitiello or Ammon.

Orientation to the profession, tracing the evolution of city and regional planning from its late nineteenth century roots to its twentieth century expression. Field trips included.

SM 448. (AFRC448) Neighborhood Displacement & Community Power. (B) Palmer.

This course uses the history of black displacement to examine community power and advocacy. It examines the methods of advocacy (e.g. case, class, and legislative) and political action through which community activists can influence social policy development and community and institutional change. The course also analyzes selected strategies and tactics of change and seeks to develop alternative roles in the group advocacy, lobbying, public education and public relations, electoral politics, coalition building, and legal and ethical dilemmas in political action. Case studies of neighborhood displacement serve as central means of examining course topics.

SM 450. Urban Redevelopment. (B) Rachlin, Andrew.

This course will consider urban redevelopment from the early 20th century to the present day, looking at ways the economic, political, and social underpinnings of redevelopment practice have changed over that time. From the City Beautiful movement to Transit Oriented Development, the course will look at why and how the public, private, and non-profit sectors have intervened in urban neighborhoods, and will contemplate consequences - positive and negative - of those interventions. Students will be introduced to some of the technical aspects of redevelopment, including architecture/design, planning, and financing. The class will be in seminar format, mixing lecture, discussion, and guest speakers. The course requirements include a mid-term paper, an in-class charrette, and a final development project.

451. (CPLN625, GAFL569) The Politics of Housing and Urban Development. (A) Kromer.

This course offers an exploration of how legislative action, government policymaking, and citizen advocacy influence plans for the investment of public capital in distressed urban neighborhoods. Course topics this semester will include an evaluation of the results of City of Philadelphia development policies under

the administration of former Mayor Michael A. Nutter, as well as consideration of plans being undertaken by the administration of Mayor James F. Kenney, who took office in January. The course will also include an assessment of a large-scale property acquisition and development strategy being implemented by the Philadelphia Housing Authority in North Philadelphia and a review of recent and current reinvestment proposals for Camden's waterfront and downtown-area neighborhoods.

SM 452. Community Economic Development. (A) Lamas.

Community economic development concerns the revitalization of impoverished communities. As with all things economic, poor and working people may be the subjects or the objects of development. We will utilize case studies from Philadelphia and around the world in an exploration of various models of economic justice and sustainable development.

SM 453. (SOCI453, URBS543) Metropolitan Growth and Poverty. (M) Madden.

This course analyzes the role of metropolitan regions in the U.S. and global economies, including the sources of metropolitan productivity, the ways that metropolitan structures affect residents, and analyses of public policy in metropolitan areas. The economic, political, and social forces that have shaped World War II urban and regional development are explored, including technology, demography, and government. Special attention is paid to how metropolitan change affects residents by income and race. Topics include: gentrification, schools, suburbanization, sprawl, metropolitan fragmentation, concentration of poverty, race, and various economic revitalization initiatives.

SM 454. (SWRK712, URBS554) City Limits: The Impact of Urban Policy. (B) Goldstein, Stern. Prerequisite(s):

Student must have taken an introduction to research methods course.

This course assesses the changing role of public policy in American cities. In the past, government often believed that it could direct urban development. New realities - the rise of an informal labor market, global capital and labor flows, the flight of businesses and the middle class to the suburbs - have demonstrated that government must see itself as one - but only one - 'player' in a more complete, transactional process of policy making that crosses political boundaries and involves

business, organized interest groups, and citizens.

This seminar uses a case-study method to study how public policy can make a difference in the revitalization of distressed American cities. The seminar is designed for advanced undergraduates and graduate students. Seminar readings and projects will be organized around three themes: 1) history and vision, 2) data and analysis, and 3) policy and implementation. Students will be divided into project teams assigned to work on current development issues that will be reviewed by both public and private-sector experts. Extensive use will be made of real estate, economic development, and social indicator data to understand the complex forces at work in both large and small cities. Students will learn to access, analyze, and map information; to frame and interpret these data within a regional perspective; and to construct profiles of cities and neighborhoods. Students will study recent urban redevelopment initiatives in the Philadelphia region, including Philadelphia's Neighborhood Transformations Initiative and New Jersey's Camden Revitalization plans.

SM 457. (SOCI435) Globalization & The City. (M) Shankar.

Over the past two decades, the public imagination has been gripped by the concept of globalization. Scholars, corporations, advertisers and government officials have latched onto this idea as a defining feature of our current era. These various constituencies use globalization not only to account for epochal shifts in our economy and society, but also to justify new types of business strategy and public policy. This course will examine three interlinked dimensions of globalization: Global economic processes (e.g. the transnational operations of multinational firms that have given rise to a new international division of labor); cultural globalization (e.g. the spread of American brands like Coca Cola, Nike and Hollywood films), and political globalization (e.g. the rise of supranational organizations like the IMF, World Bank and WTO that promote the idea of free markets).

Moreover, we will study globalization in the context of cities because, given their centrality to globalization processes, it is in cities that we can best understand how globalization takes place. In cities, we can study the global economic processes that restructure urban space, giving rise to new financial districts, international art exhibits and post-modern architecture and entrepreneurial strategies that seek to

elevate cities to world city status. The course will examine these processes in a comparative light, contrasting urban globalization processes in Europe and North America with those in Latin America, Asia and Africa.

SM 460. (AFRC460, EDUC712) School Reform and Public Policy. (A)

Hershberg.

The course examines the reforms catalyzed by the federal "Race to the Top" competitive grant program and by waivers from No Child Left Behind issued by the federal Department of Education; and explores how these reforms resemble and differ from those mandated by NCLB. Charters, vouchers and competition are discussed along with school governance and funding. Micro as well as macro policy perspectives are provided through the instructor's ongoing work helping Houston's Aldine Independent School District (the 2009 Broad Prize winner with 64,000 low-income and minority students) design and pilot a new teacher evaluation system, a new compensation system, a "peer assistance and review" process for professional development, remediation and dismissal along with related reforms.

462. (HIST463) History of American Education. (B) Katz.

A survey of the history of American education from the Colonial Period to the present. Special emphasis on the relations between education and major themes in social history.

SM 463. (ENVS463, URBS663) Brownfield Remediation: The Historical, Scientific, and Policy Dimensions of "Brownfields" in Old Industrial Cities. (M) Keene.

This course gives an overview of the genesis of the so-called "Brownfield" problem and of the various efforts that our society is taking to try to solve, or at least ameliorate it. The course will place the "Brownfield" problem in the broader context of the growth and decline of industrial base cities like Philadelphia. Students will study the general constitutional and statutory framework within which we approach the problems of orphan, polluted sites and the disposal of contemporary solid wastes. They will also analyze the principal actions that have been taken by federal and state governments to address remediation and redevelopment of abandoned industrial sites. In addition, the course will explore environmental equity issues.

SM 467. Global Cities in the 21st Century. (B) Birch.

A survey of worldwide urbanization, focusing on development disparities among cities in the Global North and Global South and within each area, with special attention to the provision of housing, basic infrastructure (water, sanitation, transportation) and social and health services.

SM 470. (PSCI470) Executive Power in Metropolitan American Politics. (M) Rendell;Siskind.

Focusing on presidents, governors, and big-city mayors, this course will explore a wide range of historical and recent examples of executive leadership and decision-making. How do their actions in office shape and get shaped by long-term historical and political forces? How and why do executive office holders use (and occasionally abuse) their power? What opportunities exist to transform both policy and public opinion? What kinds of constraints circumscribe the options available and limit the impact of executive choices? Exploring presidents such as Franklin Roosevelt, Lyndon Johnson and Barack Obama, governors including Ronald Reagan, Nelson Rockefeller and Bill Clinton, and mayors like Richard Daley, Sr. and Jr., Ed Koch, and Ed Rendell, this course at once examines the personalities and predilections of individuals as well as the political ideas and institutions that shape their time in office.

Registration in this course is by permission of the instructors only. To seek a permit for the course please provide a short personal statement of not more than one page with the following information: your name and contact information; your year; your major; other courses you have taken on related subjects; how this course would fit into your larger academic and intellectual development; any other personal or extenuating circumstances you think it would be useful for us to know about you. Email personal statements to Peter Siskind (siskind@sas.upenn.edu) no later than April 3 and enrollment decisions will be made by April 18.

SM 473. (HIST473, SOCI473) Community Organizing: History and Theory. (M) Fischer-Hoffman.

This course will integrate the history and theories of community organizing in order to provide each student with the foundation to develop a transformational praxis for creating change in their own communities. The class will include a focused analysis of theory, a historical examination of community organizing in the labor

movement, the civil rights movement and the disability rights movement, case study reviews, guest speaker presentations and practical organizing skill-building. We will examine social inequality and intersectionality and explore effective strategies in organizing for social change. This course is inter-disciplinary and draws from political economy, sociology, history, social work, and social movement theory. Students will have the option of doing a final project in collaboration with a Philadelphia-based community organization.

475. (THAR475) Public Performance Art in the Global Age. (M) Public Performance Art in the Global Age. Master of Liberal Arts open to undergraduates.

Variously termed relational aesthetics, socially engaged art, or new genre public art, the exploding global expansion and wildly proliferating forms of what this course will term public performance art is one of the most exciting and consequential artistic, cultural, and political movements of the start of the 21st Century. This course will chart the history of this phenomenon from its radical origins in Futurism, Constructivism, and Dada cabaret, through Happenings, the inter-disciplinary collaborations of Merce Cunningham, Robert Rauschenberg, and Jasper Johns, site-specific and installation art, to current practitioners around the world, such as Ai Weiwei, Thomas Hirschhorn, Marina Abramovic, and Christo and Jeanne-Claude, among others. The course will outline the theoretical and philosophical foundations of this work and the political controversies it has ignited. Special focus will be on the engagement of this work with public space and contemporary urban life.

Course requirements include wide reading and class discussion, and oral presentations on artists, collectives, and movements that have significantly shaped the current landscape. The course includes a laboratory component in which students will have the opportunity to construct a performance art or installation piece in campus public space. This public art piece will serve as site research for a final paper. All students welcome. No previous experience or special expertise in the field required. Just genuine interest or curiosity.

SM 476. BANKERS, ACTIVISTS, & GOVNT: THE MAKING OF URBAN HOUSING POLICY IN AMERICA. (M) Stern, Goldstein.

This course examines how public policy influences housing markets and how markets influence public policy. The

course reviews the development of housing policy since World War II and how shifts in policy have influenced people's ability to find suitable shelter. Topics include: poverty and affordability, residential segregation / civil rights in housing, the financial crisis of 2008, mortgage foreclosure, affordable housing, and homelessness. The course focuses on the changing roles of different levels of government in housing policy and how the financial sector, the construction industry, and non-governmental organizations influence Americans housing options.

SM 478. (CPLN678) Elements of a Sustainable Development Policy.
Keene.

This course has several objectives. The central focus will be on developing a comprehensive understanding of the principles of sustainable development, a broad, deep, and in fact, revolutionary new way of shaping the operations of society. It was first defined in the 1987 Report of the United Nations' World Commission in Environment and Development (the Brundtland Report) as: "... development that meets the needs to the present without compromising the ability of future generations to meet their own needs." The course will combine lectures on general concepts and ways of viewing sustainable development with individuals and team presentations on a wide variety of sustainable development programs. Students will examine the efforts of universities, companies, local governments, state governments, and national governments to being to moderate man's impact of the natural environment and to make societies more economically viable and just - and therefore, more sustainable - in the long run. Students will learn how sustainable development strategies involve the full range of human activities, such as energy production and use, creation of urban communities, transportation, food systems, building construction and operation, waste disposal, control of environmental pollution, water use and treatment, and social inclusion, migration, and global poverty.

SM 480. (AFRC480) Liberation and Ownership. (A) Lamas.

Who is going to own what we all have a part of creating? The history of the Americas, and of all peoples everywhere, is an evolving answer to the question of ownership. Ownership is about: the ties that bind and those that separate; production, participation, and control; the creation of community and the imposition of hierarchies--racial, sexual, and others;

dreams of possessing and the burdens of debt and ecological despoliation; dependency and the slave yearning to breathe free. Of all the issues relevant to democracy, oppression, injustice, and inequality, ownership is arguably the most important and least understood. Utilizing a variety of disciplinary perspectives--with a particular emphasis on radical and critical theories of liberation, and by focusing on particular global sites and processes of capitalism, students will assess and refine their views regarding ownership and liberation in light of their own social, political, religious, aesthetic, and ethical commitments.

SM 483. (ANTH483) Interfaith Action.

SM 501. (EDUC501) Community Partnerships in Visual Arts & Education. Epstein.

This course will connect students with artists from the 40th Street Artist-in-Residence (AIR) program, which provides free studio space and in exchange asks residents to share their talents with the local community. This course is designated as an Academic-based Service Learning (ABCS) class, meaning that students will be evaluated partly on their work in the community outreach situation. Course registration is open to advanced undergraduates.

SM 506. (URBS206) Public Environment of Cities: An Introduction to the Urban Landscape. (M) Nairn.

This course will explore the role of public spaces - streets, boulevards, parks and squares - in cities and their social uses. With the University of Pennsylvania campus and the City of Philadelphia serving as our laboratory, we will critically examine the evolution of the movement of corridors, open space and buildings of the urban landscape and their changing uses. Case studies of social spaces on campus and public open spaces in Center City will help inform our understanding of how public environment serves, well or poorly, the varying needs of diverse users. While graphic skills are not required, graphic means as well as writing will be employed to communicate critical thought, ideas, and conclusions.

SM 513. (FOLK513, URBS213) Urban Ethnography. Saverino.

Using Philadelphia as the site of students' praxis, this course explores the symbolic meanings and social production of urban life and culture in the nation's fifth largest city. This course is structured as a seminar

with ethnographic background readings from Philadelphia and other urban settings to introduce students to the study of the city as a site of everyday practice, as well as training in conducting an ethnographic fieldwork project. The urban landscape provides an intensification of macro processes such as globalization. Such processes and how humans experience them are more easily studied and understood in an urban setting.

The class will explore social relational and cultural themes such as the ethnic city, the gendered city, the contested city, the sacred city, the global city, and the aesthetic and expressive city. A diverse range of reading assignments, images, and videos will augment our understandings of urban life. Students will design and execute their own ethnographic fieldwork projects on an urban topic that interests them. Through step-by-step instruction throughout the semester, students will learn qualitative research techniques such as field notes, participant-observation, interviewing, and how to interpret their own data, so that they will be able to complete their semester project.

SM 516. (AFST516, ANTH516, GSWS516) Public Interest Workshop. (A) Suess.

This is a Public Interest Ethnography workshop (originally created by Peggy Reeves Sanday - Department of Anthropology) that incorporates an interdisciplinary approach to exploring social issues. Open to graduate and advanced undergraduate students, the workshop is a response to Amy Gutmann's call for interdisciplinary cooperation across the University and to the Department of Anthropology's commitment to developing public interest research and practice as a disciplinary theme. Rooted in the rubric of public interest social science, the course focuses on: 1) merging problem solving with theory and analysis in the interest of change motivated by a commitment to social justice, racial harmony, equality, and human rights; and 2) engaging in public debate on human issues to make the research results accessible to a broad audience. The workshop brings in guest speakers and will incorporate original ethnographic research to merge theory with action. Students are encouraged to apply the framing model to a public interest research and action topic of their choice. This is an academically-based-community-service (ABCS) course that partners directly with Penn's Netter Center Community Partnerships.

SM 519. (PSCI519) Cities in Global Econ.

SM 524. (CPLN624) Metro Labor Markets. (B) Wolf-Powers.

This course examines contemporary labor markets through two thematic lenses. One is the growing discussion of knowledge industries and "knowledge workers" and their importance to regional innovative capacity and competitive advantage in a global economy. The other is the persistent challenge of unemployment, underemployment and working poverty within metropolitan regions. In exploring these themes, readings for the class synthesize perspectives on work, labor markets and economic growth from economics, sociology, history and political science. Class lecture and discussion, supplemented by the occasional guest practitioner, will focus on translating academic research into knowledge that can be used in local economic and community development practice.

SM 525. Prisons, Politics, and Activism. Cory Fischer-Hoffman.

The United States leads the world in imprisonment. More than 2.3 million people are locked up in prisons and jails around the country, plus thousands more in immigrant detention centers. In this course, students will develop an understanding of the U.S. prison system and its widespread, differential impacts. We will utilize an inter-disciplinary approach that draws from critical theory, political economy, history, geography and sociology as well as critical race and gender studies. We will examine the social dynamics of incarceration and prison activism. Our readings and discussion will include detailed attention to matters of race, class, gender, and sexuality. This class will be a reading- and discussion-intensive seminar in which we will explore debates around the reform or abolition of prisons and the recent increase in public attention to the problem of mass incarceration. Students will learn about local prison activism and complete final projects that will focus on the mapping the carceral geography of Philadelphia.

SM 530. (URBS330) GIS Applications in Social Science. (A) Hillier.

This course will introduce students to the principles behind Geographic Information Science and applications of (GIS) in the social sciences. Examples of GIS applications in social services, public health, criminology, real estate, environmental justice, education, history, and urban studies will be used to illustrate how GIS integrates, displays, and facilitates analysis of spatial data through maps and descriptive statistics. Students will learn to create data sets through primary and

secondary data collection, map their own data, and create maps to answer research questions. The course will consist of a combination of lecture and lab.

547. (ANTH547, EDUC547) Anthropology and Education. (C) Hall or Posecznick.

An introduction to the intent, approach, and contribution of anthropology to the study of socialization and schooling in cross-cultural perspective. Education is examined in traditional, colonial, and complex industrial societies.

SM 554. (URBS454) City Limits: The Impact of Urban Policy. (B) Goldstein, Stern. Prerequisite(s): Student must have taken a research methods course.

This course assesses the changing role of public policy in American cities. In the past, government often believed that it could direct urban development. New realities - the rise of an informal labor market, global capital and labor flows, the flight of businesses and the middle class to the suburbs - have demonstrated that government must see itself as one - but only one - 'player' in a more complete, transactional process of policy making that crosses political boundaries and involves business, organized interest groups, and citizens.

This seminar uses a case study method to study how public policy can make a difference in the revitalization of distressed American cities. The seminar is designed for advanced undergraduates and graduate students. Seminar readings and projects will be organized around three themes: 1) history and vision, 2) data and analysis, and 3) policy and implementation. Students will be divided into project teams assigned to work on current development issues that will be reviewed by both public and private-sector experts. Extensive use will be made of real estate, economic development, and social indicator data to understand the complex forces at work in both large and small cities. Students will learn to access, analyze, and map information; to frame and interpret these data within a regional perspective; and to construct profiles of cities and neighborhoods. Students will study recent urban redevelopment initiatives in the Philadelphia region - including Philadelphia's Neighborhood Transformations Initiative and New Jersey's Camden Revitalization plans.

SM 560. (URBS460) School Reform and Public Policy. (A) Hershberg.

This course will examine how changes in the global economy require America's

schools to educate all students to new and demanding standards, and will review the arguments why the current school system, designed for a different economy and a different century, must be fundamentally reorganized if the nation is to succeed in meeting its human capital development challenge. Topics covered will include school funding and governance, the precedent-breaking federal legislation, No Child Left Behind, and charter schools and the voucher movement. Students can effect real-world change through research designed to elaborate the comprehensive school-reform model developed at Penn's Operation Public Education, which is now being piloted in some of the nation's schools.

SM 608. (CPLN800, HIST608, SOCI608) Proseminar in Urban Studies. (E) Stern.

Open to PhD students, this scholar-oriented seminar explores how academic researchers from different disciplines define researchable questions, craft research designs, and contribute to knowledge through an examination of important and/or recently published books and monographs with an urban focus. Required of all first- and second- year CPLN doctoral students and those doctoral students enrolled in the Urban Studies Graduate Certificate Program, enrollment is limited to 15 students. Other doctoral students may enroll on a space available basis. Course requirements include completion of a major research paper on a topic selected in consultation with the instructor.

619. (EDUC619) Critical Perspectives in Contemporary Urban Education. (C) Schultz.

The focus of this course is the conditions for teaching and learning in urban public schools, current theories of pedagogy in urban education, and perspectives on urban reform efforts.

SM 623. (AFRC623, SOCI623) Workshop in Urban Ethnography. (M) Staff.

The ethnographic and sociological interpretation of urban life. Conceptual and methodological issues will be thoroughly discussed. Ongoing projects of participants will be presented in a "workshop" format, thus providing participants the opportunity of learning from and contributing to ethnographic work in progress. Selected ethnographic works will be read and assessed.

SM 624. (SOC1624) Race Relations in American Cities. (M) Staff.

The ethnographic study of race relations in the United States. The social life and culture of urban race relations in the United States will be emphasized, stressing conceptual and methodological issues. Selected ethnographic literature will be read and discussed. Students will be expected to carry out an ethnographic site study.

SM 663. (ENVS463, ENVS663, URBS463) Brownfield Remediation: The Historical, Scientific, and Policy Dimensions of Brownfields in Old Industrial Cities. (M) Keene.

This course gives an overview of the genesis of the so-called "Brownfield" problem and of the various efforts that our society is taking to try to solve, or at least ameliorate it. The course will place the "Brownfield" problem in the broader context of the growth and decline of industrial base cities like Philadelphia. Students will study the general constitutional and statutory framework within which we approach the problems of orphan, polluted sites and the disposal of contemporary solid wastes. They will also analyze the principal actions that have been taken by federal and state governments to address remediation and redevelopment of abandoned industrial sites. In addition, the course will explore environmental equity issues.

SM 670. Ethnicity: The Immigrant City. (B)

Immigration is among the most important yet controversial forces shaping cities, regions, and neighborhoods. The diversity of immigrant and receiving communities means that the dynamics and impacts of migration are varied and complex. This course examines the development of immigrant and receiving communities in the United States. It surveys public policy

and community and economic development practices related to migration at the local, regional, national, and trans-national scale. Class readings, discussions, and visits to Philadelphia's immigrant neighborhoods explore themes including labor markets, housing experiences, political mobilization, civil society, cultural preservation, and the built environment.

The first half of the course surveys migration and community formation among a broad range of ethnic groups in different parts of the city and suburbs, mainly through history, sociology, and geography; the second half focuses on specific policy and community and economic development initiatives. The major class project will be a study of gentrification in Philadelphia's Chinatown with the community organization Asian Americans United, part of a multi-city Chinatown study in collaboration with the Asian American Legal Defense and Education Fund and colleagues in Boston and New York.

672. (EDUC672, FOLK672) Introduction to Ethnographic and Qualitative Research in Education. (C) Hall, Wortham.

A first course in ethnographic participant observational research, its substantive orientation, literature, and methods. Emphasis is on the interpretive study of social organization and culture in educational settings, formal and informal. Methods of data collection and analysis, critical review of examples of ethnographic research reports, and research design and proposal preparation are among the topics and activities included in this course.

706. (ANTH704, COML706, EDUC706, FOLK706) Culture/Power/Subjectivities. (C)

Hall. Prerequisite(s): EDUC 547.

This doctoral level course will introduce students to a conceptual language and theoretical tools for analyzing and

explaining the complex intersection of racialized, ethnic, gendered, sexual, and classed differences and asymmetrical social relations. The students will examine critically the interrelationships between culture, power, and subjectivity through a close reading of classical and contemporary social theory. Emphasis will be given to assessing the power of various theories for conceptualizing and explaining mechanisms of social stratification as well as the basis of social order and processes of social change.

SM 713. (EDUC712) Comprehensive School Reform as Applied Public Policy. (C) Hershberg.

This course examines how K-12 education policy is designed and implemented in the United States. It uses a systems analysis as the framework for looking at who makes what kinds of demands on the education policy system, how these demands are placed on the policy agenda, the decision making process, and resulting education policies and policy outcomes. The course pays particular attention to the roles of federal, state and local governments in education policy, and the impact of our intergovernmental system on the design and implementation of policy. Students will also examine major education policies and debate key education policy issues that arise at each level of government.

714. (CPLN714) Policy Analysis & Program Evaluation for Planning. (A) Wong.

Exploration of the intended and unintended consequences of public policy pertaining to land use, transportation, housing, education, growth management and economic development.

VISUAL STUDIES (AS) {VLST}

We live in an increasingly visual culture. New technologies and philosophies of vision influence how we see ourselves and our world, and how we think about seeing itself. Students can engage these developments through a multidisciplinary course of study, connecting the theory, practice, and culture of seeing.

L/R 101. Eye, Mind, and Image. (C)

May be counted toward the Hum/SocSci or NatSci/Math Sectors. Class of 2010. Hatfield/Leja. Fulfills General Education in Sectors IV (Humanities and Social Sciences) and VII (Natural Science and Mathematics). This course is required of all Visual Studies Majors (stage 1).

Visual Studies 101 provides an introduction to the collaboration of eye, mind, and image that produces our experience of a visual world. How and what do we see? How do we perceive color, space, and motion? What is an image? Does seeing vary across cultures and time? What can art tell us about vision? Is there a 21st-century form of seeing? This course combines different approaches to the study of vision, drawing from psychology, cognitive science, philosophy, history of art, and fine art. Professors representing two or three disciplines present lectures that demonstrate the methods of their disciplines and draw connections across fields.

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102. Form and Meaning. (C)

Bendtsen/Hyland. This course is required of all Visual Studies Majors (stage 1 or 2). This course will introduce students to the theory and practice of image making, focusing on the development of observational skills and analytical thinking. We will look at conventions of artistic representation across time and cultures; discuss types of visual information and modes of formal language; explore visual narrative techniques; and seek to expand our understanding of the role images play in our culture.

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information and modes of formal language; explore visual narrative techniques; and seek to expand our understanding of the role images play in our culture.

103. 3 Dimensions: Time and Space. (C)

Freedman/Neighbor. This course is required of all Visual Studies Majors (stage 1 or 2).

Through studio projects, readings and class discussion, this class will begin to address, both conceptually and physically, basic 3D structures and translations between 3D and 2D, as well as materiality, experiential phenomena, light and time-based processes. The interconnection between mediums in our cultural climate employs a wide range of tools, processes, and ideas. It is imperative that visual studies students recognize and think through these connections. The work produced and ideas confronted in this class will facilitate discussions and constructive criticism on the fundamentals of space and time via the experiential, conceptual, and the formal as essential elements of meaning.

The interconnection between mediums in our cultural climate employs a wide range of tools, processes, and ideas. It is imperative that visual studies students recognize and think through these connections. The work produced and ideas confronted in this class will facilitate discussions and constructive criticism on the fundamentals of space and time via the experiential, conceptual, and the formal as essential elements of meaning.

L/R 211. (PSYC111) PERCEPTION. (C)

Staff. Topics for this course vary each semester. Dept permission required. This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

SM 212. (PSYC311) Research Experience in Perception. (C)

Rust. Prerequisite(s): One semester of statistics, and one of the following: PSYC 111, 149, 151, 217, or permission of instructor. Dept permission required. Undergraduates only. This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

In this research course, students will begin by first replicating earlier experiments to measure human visual memory capacity. After several class discussions to discuss ideas, each student will design and conduct their own experiment to further investigate visual and/or familiarity memory.

L/R 217. (BIBB217, PSYC217) Visual Neuroscience. (B) Rust. Prerequisite(s): PSYC 001, COGS 001, or VLST 101. This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

An introduction to the scientific study of vision, with an emphasis on the biological substrate and its relation to behavior. Topics will typically include physiological optics, transduction of light, visual thresholds, color vision, anatomy and physiology of the visual pathways, and the cognitive neuroscience of vision.

L/R 221. (PHIL244) Introduction to Philosophy of Mind. Domotor,

Miracchi. This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

In this course, we will explore philosophical questions concerning the nature of minds. In seeking to understand the nature of minds, philosophers and psychologists have often used metaphors drawn from the forms of technology available to them. Leibniz once described the mind as a mill, while Freud compared the mind to a hydrolytic and electromagnetic system. In our own time, many have followed Alan Turing's proposal and have viewed the mind as a special kind of computer; indeed, this "Computational Theory of Mind" forms the foundation for much work in contemporary cognitive science. In this class, we will explore the extent to which the computational theory of mind can adequately characterize the distinctive capacities involved in representing an external environment and having conscious experiences that is displayed by minds in general and human minds in particular. Although an introductory class in philosophy or logic will aid students' understanding, no prior familiarity with the philosophy of mind or cognitive science will be presumed.

SM 222. (PHIL330) Philosophy of Perception. (M) Hatfield. Department Majors Only. This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

Taking our perceptual experience as a given, what causes it? In a realistic mood, we accept that objects in the environment, or in the "external world," cause us to have the perceptual experiences that we do (as of a table with food, or as of a garden with flowers in it). Yet on this realistic view, our perception is the result of a causal chain that leads from object to eye to brain to experiences, and we are only given the last element: the experience. So how do we really know how our experiences are caused, and where do we get the idea that

they are caused by an external world of physical objects? The seminar will focus on the problem of the external world as examined by David Hume, Thomas Reid, G. E. Moore, and Bertrand Russell, along with recent authors.

SM 223. (ARTH667, PHIL223, PHIL423) Philosophy and Visual Perception. (C) Hatfield, Connolly. This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

In this course, we'll use the biology, psychology and phenomenology of vision to explore philosophical questions about color, such as these: Color vision helps us get around in our environments, but in what sense is it a window onto reality, if it is? Are colors properties of objects, or are they inherently private, subjective properties of minds? What can non-human forms of color vision teach us about the nature of color, and how should we empirically study color vision? Do we need to see in color to understand it? How do our ordinary ways of talking and thinking about colors relate to the experiences we have in color? How does color vision figure in aesthetic judgment? And to what degree can it be influenced by learning, or by social biases like sexist or racist prejudices?

L/R 232. (ARTH102) Renaissance to Contemporary: Introduction to Western Art, 1400 to the Present. (B) Arts & Letters Sector. All Classes. Dombrowski, Kim, Shaw. This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

This course is an introduction to the visual arts including painting, sculpture, print culture, and new media such as photography, film, performance and installation art-in Europe and the United States from 1400 to the present. It offers a broad historical overview of the key movements and the artists of the period, as well as an investigation into the crucial themes and contexts that mark visual art production after the middle ages. Such themes include the secularization of art; the (gendered) role of the artist in society; the sites of art production and consumption such as the artist's studio, the royal courts and the art exhibition; the materials of art; the import of technology and science to art's making, content and distribution; the rise of art criticism; and the socio-political contexts of patronage and audience; among others.

L/R 233. (ARTH103, EALC013) Art and Civilization in East Asia. (M) Arts & Letters Sector. All Classes. Davis/Steinhardt. This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

Introduction to major artistic traditions of China and Japan and to the methodological practices of art history. Attention given to key cultural concepts and ways of looking, in such topics as: concepts of the afterlife and its representation; Buddhist arts and iconography; painting styles and subjects; and more broadly at the transmission of styles and cultural practices across East Asia. Serves as an introduction to upper level lecture courses in East Asian art history cultures. If size of class permits, certain sessions will be held in the University Museum or the Philadelphia Museum of Art.

234. (ARTH104, SAST200, SAST500) Introduction to Art in South Asia. (C) Arts & Letters Sector. All Classes. Meister. This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

This course is a survey of sculpture, painting and architecture in the Indian sub-continent from 2300 B.C., touching on the present. It attempts to explore the role of tradition in the broader history of art in India, but not to see India as 'traditional' or unchanging. The Indian sub-continent is the source for multi-cultural civilizations that have lasted and evolved for several thousand years. Its art is as rich and complex as that of Europe and diverse. This course introduces the full range of artistic production in India in relation to the multiple strands that have made the cultural fabric of the sub-continent so rich and long lasting.

235. (AAMW635, ARTH235, ARTH635, NELC285, NELC685) Introduction to Visual Culture of the Islamic World. (C) Humanities & Social Science Sector. Class of 2010 & beyond. Holod. This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

A one-semester survey of Islamic art and architecture which examines visual culture as it functions within the larger sphere of Islamic culture in general. Particular attention will be given to relationships between visual culture and literature, using specific case studies, sites or objects which may be related to various branches of Islamic literature, including historical, didactic, philosophical writings, poetry and religious texts. All primary sources are available in English translation.

L/R 236. (ARTH294, ARTH694, ENGL059, GSWS294) Art Now. (M) Silverman. This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

One of the most striking features of today's art world is the conspicuous place occupied in it by the photographic image. Large-scale color photographs and time-based installations in projections are everywhere. Looking back, we can see that much of the art making of the past 60 years has also been defined by this medium, regardless of the form it takes. Photographic images have inspired countless paintings, appeared in combines and installations, morphed into sculptures, drawings and performances, and served both as the object and the vehicle of institutional critique. They are also an increasingly important exhibition site: where most of us go to see earthworks, happenings and body-art. This course is a three-part exploration of our photographic present.

250. (FNAR250, FNAR550) Introduction to Printmaking. (B) Staff. Course Fee \$75.00.

The course offers an introduction to several forms of printmaking including: intaglio, screen printing, relief, and monoprinting. Through in-class demonstrations students are introduced to various approaches to making and printing in each medium. The course enhances a student's capacity for developing images through two-dimensional design and conceptual processes. Technical and conceptual skills are developed through discussions and critiques.

251. (FNAR271, FNAR571) Introduction to Photography. (C) Course Fee \$75.00.

This course is an introduction to the basic processes and techniques of black & white photography. Students will learn how to expose and process 35mm film, SLR camera operation, darkroom procedures & printing, basic lighting and controlled applications. It begins with an emphasis on understanding and mastering technical procedures and evolves into an investigation of the creative and expressive possibilities of making images. This is a project-based course, where students will begin to develop their personal vision, their understanding of aesthetic issues and photographic history. Assignments, ideas and important examples of contemporary art will be presented via a series of slide lectures, critiques and discussion. No previous experience necessary. 35mm SLR cameras will be available throughout the

semester for reservation and checkout from the photography equipment room.

252. (FNAR145, FNAR545) Sculpture Practices. (C) Staff.

As an introduction to traditional and contemporary three-dimensional practice, this course is concerned with the concepts and methodologies surrounding three-dimensional art making in our time. Students experiment with a variety of modes of production, and develop some of the fundamental techniques used in sculpture. In addition to these investigations, assignments relative to the history and social impact of these practices are reinforced through readings and group discussion. Processes covered include use of the Fab Lab, wood construction, clay, paper, mixed media, and more.

253. (FNAR123, FNAR523) Drawing I. (D) Staff.

This course is designed to develop visual awareness and perceptual acuity through the process of drawing. Students learn to sharpen perceptual skills through observational drawing, and to explore the expressive potential of drawing. A variety of problems and media will be presented in order to familiarize students with various methods of working and ways of communicating ideas visually. Subject matter will include object study, still life, interior and exterior space, self-portrait and the figure. Different techniques and materials (charcoal, graphite, ink, collage) are explored in order to understand the relationship between means, material and concept. Critical thinking skills are developed through frequent class critiques and through the presentation of and research into historical and contemporary precedent in drawing.

260. (FNAR150) Photography Practices. (C) Staff. Course Fee \$75.00.

This course is an introduction to the basic principles, strategies and processes of photographic practice. It is designed to broaden the student's aesthetic explorations and to help the student develop a visual language based on cross-disciplinary artistic practice. Through a series of projects and exercises students will be exposed to a range of camera formats, techniques and encouraged to experiment with the multiple modes and roles of photography - both analogue and digital. Attention will also be given to developing an understanding of critical aesthetic and historical issues in photography. Students will examine a range of historical and contemporary photowork as an essential

part of understanding the possibilities of image making.

SM 261. (CIMS061, FNAR061, FNAR661) Video I. (C) Staff. Course Fee \$75.00.

This course provides students with the introductory skills and concepts related to producing short works that explore the language of the moving image. Students will learn the basics of cinematography and editing through a series of assignments designed to facilitate the use of the medium for artistic inquiry, cultural expression and narrative storytelling, through both individual and group projects.

264. (FNAR264, FNAR636) Art, Design and Digital Culture. (C) Course Fee \$75.00.

This course is an introduction to the fundamental perception, representation, aesthetics, and design that shape today's visual culture. It addresses the way artists and designers create images; design with analog and digital tools; communicate, exchange, and express meaning over broad range of media; and find their voices within the fabric of contemporary art, design, and visual culture. Emphasis is placed on building an extended form of visual literacy by studying and making images using a variety of representation techniques; learning to organize and structure two-dimensional and three-dimensional space, and designing with time-based and procedural media. Students learn to develop an individual style of idea-generation, experimentation, iteration, and critique as part of their creative and critical responses to visual

265. (FNAR340, FNAR640) Digital Photography. (C) Staff. Course Fee \$75.00.

This class offers an in-depth technical and conceptual foundation in digital imagery and the opportunity to explore the creative, expressive possibilities of photography. Students will become proficient with the basic use of the camera, techniques of digital capture, color management and color correction. They will also develop competency in scanning, retouching, printing and a variety of manipulation techniques in Photoshop. Through weekly lectures and critiques, students will become familiar with some of the most critical issues of representation, consider examples from photo history, analyze the impact of new technologies and social media. With an emphasis on structured shooting assignments, students are encouraged to experiment, expand their visual vocabulary while refining their technical skills. No

previous experience is necessary. Although it is beneficial for students to have their own Digital SLR camera, registered students may reserve and checkout Digital SLR cameras and other high-end equipment from the department.

SM 301. (ARTH301, VLST501) What is Visual Studies?. (C) Staff.

Prerequisite(s): VLST 101 or Instructor Permission. This course is required of all Visual Studies Majors (Stage 2).

Visual Studies 301 is a seminar-format course that challenges students to develop independent ideas about how the eye, the mind and the image that is created therein, all work together to inform our conception of the world at large. Rather than present a unified viewpoint, the course asks the question, "What is visual studies?" by examining parallel and sometimes antagonistic approaches to the ways that human beings understand sight and the concept of visibility. Over the course of the semester, students will discuss and write about various approaches to vision, examining this contested field through the lenses of several disciplines -- including psychology, philosophy, and art history. By parsing and assimilating diverse ideas, students will decide for themselves what are the most pertinent and relevant approaches to the various avenues of research that present themselves in the emerging interdisciplinary field of Visual Studies.

SM 303. (VLST503) The Rise of Image Culture: History and Theories. Leja.

This course can count toward Sector B, (Stage 2 or 3) of the Visual Studies Major.

Images are ubiquitous in the cultural life of the 21st century, yet only two centuries ago they were rare. When and how did pictures come to permeate daily life? How has ordinary experience--psychological, social, cultural, intellectual--changed as a result? This seminar addresses these questions through close reading of influential historical and theoretical writings about the rise of image culture and its effects, including Benjamin, Debord, McLahan, Mitchell.

SM 305. (VLST505) What is an Image?. Verstegen. This course can count toward Sector A, (Stage 2 or 3) of the Visual Studies Major.

The course explores various concepts of images. It considers natural images (as in optics), images as artifacts, virtual images, images as representations, and works of art as images. Themes to include: the image controversy in cognitive science, which asks whether some cognitive

representations are irreducibly imagistic; the question of whether some images resemble what they represent; the development of the concept of the virtual image and of three-dimensional images; the notions of pictorial representation and non-representational images in art. Readings from C. S. Peirce, Nelson Goodman, Robert Hopkins, Dominic Lopes, W. J. T. Mitchell, John Kulvicki, and Mark Rollins, among others.

SM 395. Senior Project. (E) Staff. This course is required of all Visual Studies Majors. (Stage 4) Seniors only. Permission of Instructor Required.

399. Independent Study. Staff. See department for appropriate section numbers.

SM 501. (ARTH301, VLST301) What is Visual Studies?. (C) Staff.

Visual Studies 301 is a seminar-format course that challenges students to develop

independent ideas about how the eye, the mind and the image that is created therein, all work together to inform our conception of the world at large. Rather than present a unified viewpoint, the course asks the question, "What is visual studies?" by examining parallel and sometimes antagonistic approaches to the ways that human beings understand sight and the concept of visuality. Over the course of the semester, students will discuss and write about various approaches to vision, examining this contested field through the lenses of several disciplines -- including psychology, philosophy, and art history. By parsing and assimilating diverse ideas, students will decide for themselves what are the most pertinent and relevant approaches to the various avenues of research that present themselves in the emerging interdisciplinary field of Visual Studies.

SM 503. (VLST303) Rise of Image Culture. Leja.

Images are ubiquitous in the cultural life of the 21st century, yet only two centuries ago they were rare. When and how did pictures come to permeate daily life? How has ordinary experience--psychological, social, cultural, intellectual--changed as a result? This seminar addresses these questions through close reading of influential historical and theoretical writings about the rise of image culture and its effects, including Benjamin, Debord, McLahan, Mitchell.

SM 505. (VLST305) What is an Image?. Hatfield.

SM 540. (ARTH572) TOPICS IN VISUAL CULTURE. (M)

599. Independent Study. (C) Staff. See department for appropriate section numbers.

649. INTL EXCH TEL AVIV.

**Wharton Undergraduate
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SM 150. BUSINESS RESEARCH. (B)

215. (FNCE896) FINANCE IN EUROPE. (B)